

# AMERICAN RAILROAD JOURNAL.

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HENRY V. POOR, Editor.

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## American Railroad Journal.

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Saturday, August 30, 1851.

### The Tehuantepec Railroad.

As the interference of the Mexican government with the operations of this company is exciting a good deal of interest, and as our government will without doubt be appealed to, to sustain the latter, we give below a brief abstract of an address to the people of the United States, signed by J. P. Benjamin of New Orleans, a leading man in the enterprise. It states in substance the case of the company.

The first grant or concession was made in March, 1842, by Santa Anna, who was then invested with the supreme dictatorship, to Don Jose de Garay, a Mexican citizen. This grant comprehended, among other special privileges, ten leagues of land on each side of the line of communication; the specific object of which was the establishment, either by water or railroad, of a connection of the two oceans, across the Isthmus of Tehuantepec. By the terms

of the original grant all these rights and privileges were made transferable; and as this is the point upon which the present holders predicate their claim, we will give the precise words used in the grant. In it, President Santa Anna says that

"In the name of the Supreme Government, and under the most solemn protests, he declares and promises that all and every one of the concessions mentioned in the pre-inserted decree, shall be honorably fulfilled now and at all times; pledging the honor and public faith of the nation to maintain the projector, Don Jose de Garay, as well as any private individual or company succeeding or representing him, either natives or FOREIGNERS, in the undisturbed enjoyment of all the concessions granted."

In the following year, February, 1843, these rights and privileges were re-affirmed by Bravo, the then President of the Republic, by whose orders Garay was put in possession of the lands conceded to him. In October of the same year, Santa Anna, who was again President, issued a decree stating that the surveys of Garay had been concluded, and ordering the several departments to furnish him with a certain number of convicts to be employed on the work. In December of the same year, Santa Anna extended the period for commencing the work, which by the original grant was to expire in July, 1844, to July, 1845. The difficulties with the United States, assuming a menacing character, and impeding Garay in fulfilling his engagements agreeably to the terms of his extended grant, he petitioned the government in June, 1845, for a further indulgence of time. A law in accordance with the tenor of this application passed the House of Representatives, but in consequence of a revolution, which was in those days a common occurrence, Congress was dissolved before it reached the Senate. Salas was the successful aspirant, and for a time exercised the supreme power of dictator. On the 5th of November, 1846, he promulgated a decree of a similar import with the one which had passed the Mexican House of Representatives. By this decree, the time for commencing the work was extended to the 5th of November, 1848; and by the admission of the Mexican authorities, the work was actually commenced prior to that date.

In 1846 and '7, Garay, availing himself of that clause which authorized him to assign his rights to "any private individual or company, natives or foreigners," made a transfer of all his interest to Manning and MacIntosh, English subjects, residing in Mexico. Of this transfer the Mexican go-

vernment had notice, and the rights and privileges of the assignees were fully and officially recognised. This is shown by the fact that when our government proposed to give fifteen millions of dollars for the right of way across the Isthmus, the Mexican Commissioner replied "that Mexico could not treat on this subject, because she had, several years before, made a grant to one of her own citizens, who had transferred his rights by the authorization of the Mexican government to English subjects, of whose rights Mexico could not dispose."

The grant being thus confirmed in the hands of the new holders, Mr. P. A. Hargous, a citizen of Pennsylvania, became the purchaser of it, and associated with himself in the enterprise, a company of citizens of New Orleans. Before committing themselves further, the company, which is now the "Tehuantepec Company," were desirous of ascertaining the feelings and disposition of the Mexican Government, and through the medium of our Minister, Mr. Letcher, made known their desire to commence the work, and at the same time to submit overtures for a treaty of joint protection. The Mexican government made not the slightest objection, did not suggest a doubt of the rights of the Company, forwarded passports for their engineers and officers, and issued orders to the departments of Oajaca and Vera Cruz, to avoid interposing any obstacles to their work, but on the contrary, to afford them aid and hospitality.

This occurred in April, 1850, when the engineers commenced the work of re-surveying, and over one hundred thousand dollars have already been expended in this undertaking.

But recently, a change seems to have taken place in the public feeling of Mexico. Whether it arises from the operation of foreign influences, or whether it may be attributed to the antipathies engendered against the people of the United States by the late war, is a question we will not stop to discuss. The Mexican Congress has declared "that the decree of Gen. Salas, of November, 1846, was null and void, because he had no power to make such decree." We can only regard this as a subterfuge, since the other acts and decrees of Salas have been uniformly, by the executive, legislative, and judicial authorities of that country, recognized as legitimate, and cited as the fundamental law of the land.

The government of Salas was a government *de facto*; and our country, in its relations with others,

never undertakes to determine whether the parties found in possession of the sovereignty are rightfully entitled to it, but treats with them as having the undoubted authority to act, and to bind the country whose destinies are at the moment under their control.

This very decree of Salas, too, has been repeatedly recognized by the Mexican government as binding; so that the present pretext is exceedingly shallow.

It is to be hoped that there is sufficient sense of national honor and justice in the Mexican people, to reverse this late decision of their Congress, and thus enable the parties interested to resume the enjoyment of their rights.

For the American Railroad Journal.

**Cincinnati and Seaboard Railways.—No. II.**  
H. V. POOR, ESQ.

Sir,—In our last we pointed out the probable lengths of the four main routes for railways from Cincinnati to Philadelphia, which have lately obtained the most prominence, from their position, and the progress of events.

Three of these about on the Central Pennsylvania railroad, as their trunk, and but one upon the Baltimore and Ohio railroad. Nature, and the wise and prudent policy of the city of Baltimore, having always confined their main line west, to a single route, which has been uniformly promoted and pursued, by the enterprising merchants of that place, with a consistent pertinacity worthy of the highest success, and destined ultimately to attain it, despite the adverse legislation which has forced them to turn aside for a time, and compelled them to strike the Ohio river by a divergent railroad, which will nevertheless be a most important feeder to their main line, now and ever directed upon Parkersburg.

This divergent line (the route to Wheeling, now pressed forward with a most magnanimous energy) induced the projection of an important railroad line, thence to the political capital of Ohio.

This line, the *Central Ohio*, which since the adverse vote of Belmont county, has been regarded dead, by friends and foes, is now again manifesting symptoms of vitality, which may eventuate in its construction, ultimately, whenever the condition of financial affairs favors the introduction of its bonds into the money market.

From the Central Ohio line spring several modifications of the main routes west, the effect of which comes now to be considered in continuation of the main routes named.

5.—*Philadelphia*, via the Pennsylvania railroad to Greensburg; the Hempfield railroad to Wheeling; the Central Ohio railroad to Zanesville; the Zanesville and Circleville railroad to the mouth of Tods Fork on the Little Miami; and by the Little Miami railroad to Cincinnati.—Total distance, 646 miles.

6.—*Philadelphia*, via the Pennsylvania railroad to Greensburg; the Hempfield railroad to Wheeling; the Central Ohio railroad to Columbus; the Columbus and Xenia railroad to Xenia, on the Little Miami; and by the Little Miami railroad to Cincinnati.—Total distance, 664 miles.

7.—*Philadelphia*, via the Baltimore and Wilmington railroad to Baltimore; the Baltimore and Ohio railroad to Wheeling; the Central Ohio railroad to Zanesville; the Zanesville and Circleville railroad to the mouth of Tods Fork, on the Little Miami; and by the Little Miami railroad to Cincinnati.—Total distance, 723 miles.

8.—*Philadelphia*, via the Baltimore and Wil-

lington railroad to Baltimore; the Baltimore and Ohio railroad to Wheeling; the Central Ohio railroad to Columbus; the Columbus and Xenia railroad to Xenia, on the Little Miami; and by the Little Miami railroad to Cincinnati.—Total distance, 740 miles.

To these must be added the route from Pittsburgh through Steubenville, by the Pittsburgh and Steubenville railroad, (organized August 21, 1851,) and by the entire length of the Steubenville and Indiana railroad, (to be let, October 1, 1851.)

9.—*Philadelphia*, via the Pennsylvania railroad to Pittsburgh; the Pittsburgh and Steubenville railroad to Steubenville; the Steubenville and Indiana railroad to Newark; the Central Ohio railroad to Columbus; the Columbus and Xenia railroad to Xenia, on the Little Miami; and by the Little Miami railroad to Cincinnati.—Total distance, 657 miles.

It will now be seen that of all these main lines and modifications, the Pennsylvania railroad is the trunk of *six*, and the Baltimore and Ohio railroad of only *three*, two of which are very indirect.

It will be also seen, that every one of these lines enters the city of Cincinnati, by the Little Miami railroad, and this fact alone indicates the vast importance of that successful thoroughfare.

These main routes and modifications, *nine in number*, are, it is believed, all which have yet been seriously projected in any direct line, from the Seaboard to Cincinnati, or the completion of which comes within the range of ordinary probability at a proximate day.

Even of these combinations it is exceedingly doubtful whether all will be directly undertaken.

For instance, several of them depend upon the cut off line from Zanesville through Circleville, to the mouth of Tods Fork on the Little Miami, by which about 18 miles of distance may be saved, but which involves the construction of 128 miles of new railroad, and its after operation in the face of a competition with the Xenia line, now well supported by the Lake trade and travel, and directed by a superior intelligence, which would render it no common rival.

Again the Hempfield railroad promises to Philadelphia a saving of Cincinnati distance, which can better be effected by a modification of the Steubenville and Indiana railroad, in Ohio.

The length of that line (the Hempfield,) in these comparisons, has been assumed in advance of the surveys at 80 miles, (three miles less than Mr. Knight's reconnaissance) and though that distance may possibly be shortened to 78, or even 75 miles, by the skilful engineer who has it in charge; still the line from Philadelphia to Cincinnati, through Pittsburgh and Steubenville, will, under any circumstances, be as short as any line through Wheeling—while it will have the advantage of using the entire length of the Pennsylvania railroad, and of passing through Pittsburgh, that great point of concentration, whose business alone would compensate for a detour of many miles, if any such circuit were necessary, which, however, is fortunately obviated entirely by the "*grand diagonal line*," to which your attention has been invoked.

As the construction of the Hempfield railroad depends upon Philadelphia capital, it is not likely, therefore, to be built at this time.

It must show better claims upon Philadelphia, than a mere link of a through line to Cincinnati, (now superseded by a better) before it can hope for any efficient pecuniary aid from that quarter.

And such, the writer learns, were the assurances

lately received in Philadelphia, by the Pittsburgh committee of the Steubenville road.

Philadelphia will favor all connexions with her main trunk line, but she will aid none that do not promise direct contributions to the success of her own main route, and to the promotion of her commercial prosperity, without abandoning the important point of Pittsburgh, to which she is bound by so many, and such powerful business ties.

Another most important question connected with these Cincinnati and Seaboard railways, a question of much greater consequence than any possible saving, or effect of a few miles of distance, remains yet to be discussed.

It is the *question of the gauges*, to which, if you can spare us the space in your valuable journal, we shall devote a future number.

DIAGONAL.

#### Eagle Harbor Mines.

In our last number we gave some account of the Copper Harbor mines. We now propose to give a very brief sketch of some of the mines in Eagle Harbor district. Eagle Harbor may be considered as the second harbor of importance in the copper region. It is situated about sixteen miles to the westward of Copper Harbor, and is described as a lovely and romantic place. The encouraging appearance of the mines there has given an impetus to the growth of the place, and it is becoming quite a flourishing and prosperous village.

One of the most important mines in this district is the North West, five miles from Eagle Harbor. There are no less than five distinct and well defined veins in the space of a few hundred yards; and it is not improbable that all may ultimately be found to converge and form a single lode of great power. Four shafts have been sunk in the principal vein to the depth of 80, 236, 242 and 272 feet respectively. An adit level has been driven into the cliff 720 feet, a ten fathom level 607 feet, 20 fathom level 690 feet, and 30 fathom level 300 feet. Some idea of the richness of the lodes may be formed from the fact that the company had shipped this year, previous to the 1st of July, about 100 tons in masses and barrel work, and expect to ship as much more before the close of navigation. The masses become larger as they go down, and the vein varies from one to two and a half feet in thickness.

It may not perhaps be recollected by our readers that this mine was worked in the commencement of the business on Lake Superior, and then abandoned; and even no more than two years ago, success seemed to many of the stockholders extremely doubtful. Many of the other mines, which now present no favorable indications, may doubtless in due time, by a judicious expenditure of capital, be made to produce like favorable results.

This company have about 60 acres of excellent farming land under improvement; and besides stores, warehouses, barns, stamps and saw-mill, they have twenty-five respectable dwelling houses, occupied by as many families, altogether forming quite a village. A mining engine of thirty-three horse power, for raising copper and for pumping, has lately been constructed for them in Pittsburgh, and is now on the way to the mine. In a few weeks it is expected to be in operation, thus enabling them to carry forward their mining work far more extensively and profitably.

Some six miles further to the west is another promising vein. Operations were commenced here about a year ago, under the superintendence of



John Stawson, Esq., and the work has been prosecuted with energy. Four shafts have been sunk to the depth of 115, 133, 88 and 60 feet respectively, below the surface. An adit level has been driven in on the vein 629 feet, and at the foot of No. 2 shaft, a ten fathom level has been commenced. Mr. S. has employed eighteen miners and as many surface men. An engine for stamping and pumping has been ordered from Pittsburgh, and is expected to be put in operation this season. Fifteen acres of land are under cultivation.

Some two miles from this mine, and about two and a half miles from Eagle Harbor, is the Copper Falls mine. Work was commenced here five years ago under flattering auspices, and for a time the operations were attended with good success. A mass of ore, weighing twelve tons, was taken from this vein. But after working the mine for three years or more, with constantly waning success, the active operations were abandoned in 1849. Last fall, however, the company employed Hon. S. W. Hill, an eminent geologist and mineralogist, to make further examinations and explorations of the locality. Mr. H. soon had the satisfaction to discover a beautiful vein, a short distance to the west of the old works, and higher up the ridge. The company recommenced operations last spring, and have now in their employ thirty miners and fifteen surface men; and judging from the indications at every point where they have broken into the vein, there is every reason to believe that their operations will be attended with good success.

There are some other companies in the neighborhood, the Winthrop and the Dana mining companies; but their operations have been somewhat limited, and we have seen no definite account of their progress. We shall endeavor to keep our readers advised of all movements of interest in this great copper mining region, as fast as we receive reliable accounts.

#### On the Manufacture of Iron for Railroads.

We published, a few weeks since, an abstract of an article in the Journal of the Franklin Institute, for July, by H. L. Damsel, Esq., on the comparative qualities of the metal employed in the construction of railroads. The August number of that publication has come to hand, containing some additional remarks on the subject, from the same author, the substance of which we subjoin.

Various attempts and experiments have been made to remedy the tendency of best iron to laminate. An ingenious apparatus has been patented in this country, and also in England, for twisting the rail bar, while it is in the course of manufacturing. By means of powerful machinery the bar is twisted while in its rough state, until the fibres of metal encircle the rail instead of lying in a direction parallel with its axis. But it is found that the twisting of the bar alone is insufficient to retard the laminating process, while the fibrous character of the metal still exists.

An English manufacturer has patented a process for manufacturing what appears to be a near approach to an anti-laminating rail. His plan is to construct the upper or wearing part of the rail, from puddled charcoal iron in the unwrought state, and the lower part from the iron ordinarily used in manufacturing rails. This arrangement materially reduces the formation of fibre; yet the high price at which these rails have been sold in England, has hitherto limited their employment to a few isolated experiments on some of the leading railways in that country.

To discover means whereby wrought rails might be rolled from common metal, and yet be free from the laminated structure attendant on its employment, experimental trials were made with rails rolled from variously constructed piles, built up of common puddled iron, with and without the admixture of superior qualities. This was done with the view of ascertaining if the present system of piling could not be advantageously altered for one which, with little or no additional expense in the manufacturing over that now incurred, would result in the production of a perfectly non-laminating rail. The object aimed at, therefore, was one which, if attained, would be of incalculable benefit to railroad companies.

The plan usually adopted, is to arrange the bars whether these are of mill or puddled iron, side by side, and one on the other, till a pile is built of the required dimensions. By thus arranging them, the grain or fibre of all the bars runs in the same direction—longitudinally. This parallelism is maintained in the subsequent process of rolling, when the pile is distended from its original length of about 3 feet, into a finished rail of from 24 to 26 feet long, but is reduced laterally and vertically from 7 inches wide and 9 inches high, equal to 65 sectional inches to a bar, averaging, perhaps, 6 square inches. The fibres of metal are thus distended longitudinally to 9 times their original length, and to meet this elongation, they are compressed into one-ninth of their original sectional area. The fibrous character of the metal continues, and is multiplied at each successive rolling, until, as is not unfrequently the case at iron works, it is no longer available for manufacturing purposes.

The remedy which Mr. Damsel proposed for this prevailing tendency to laminate, consequent on the disposition of the plates or bars in parallel layers was to withdraw a few of the long bars which ran the whole length of the pile, and replace them with a number of short ones which were to be laid crosswise to the others, and whose length would consequently be equal to the breadth of the pile.

The first piles constructed on this plan were wholly composed of puddled iron disposed in parallel layers, with the exception of the two upper layers, which were of the best metal. The top layer of best metal was of the usual length, and was placed along the pile in the usual manner, but the one under it resting on the puddled bars, was composed of short pieces laid across the pile, with their grain or fibre at right angles with that of the others.

Apparently, this simple alteration in the disposition of the bars of metal composing the unwrought pile, could not affect the structural arrangement of the manufactured bar, but in reality it occasioned a most important change. The rails rolled from these piles were placed on cast iron blocks, standing 3 feet apart, and broken by blows from a heavy ram falling freely between fixed guides. The appearances presented by the fractured ends were very different from anything previously observed in rails. For a depth of full half an inch from the surface, the fractured metal presented the crystalline appearance of fine white cast iron, while the remainder of the rail exhibited the usual coarse fibrous character commonly observed in rail iron. Yet, although the contact between the two metals was striking in the extreme, the line of junction was indiscernible, and the union of the two qualities appeared to have been effected in the most solid manner.

The alteration thus effected in the structure of the metal by the single layer laid across the pile, led to further experiments on piles with two cross-laid layers, having a thickness of long bars between them; and in subsequent experiments the number was increased till every alternate layer was thus disposed. The effect of a second cross layer of best iron was to double the depth of the fine crystalline metal, but when this second layer was of puddled iron, the metal, when broken, appeared to be formed of large crystals not unlike coarse white pig iron. The metal in the bars rolled from piles built up with layers laid alternately along and across the pile, could scarcely be distinguished in its appearances from cast metal, so great had been the change which the altered mode of piling had effected in the structural arrangement of the iron.

By placing a cross layer of short bars at the head and foot of the pile, the rail when broken exhibited the crystalline structure at the top and bottom, with a centre mass of fibrous metal, and on placing cross layers in the middle of the pile only, the rail was found fibrous at both top and bottom, but crystalline in the middle. It is possible, therefore, to produce rails with non-fibrous metal in any desired proportion, and occupying any desired position.

The experiments on the conversion of fibrous into crystalline iron at pleasure, by merely altering the system of piling, satisfactorily demonstrated that, by disposing a moiety of the bars across, instead of along the pile, as was heretofore the universal practice, a rail perfectly void of lamina could be manufactured from highly fibrous metal. The additional expense from using the short cross bars over that incurred in the usual way, amounted to about ten cents per ton on the rails experimented upon; but in the event of the plan being generally adopted, as it is presumed it will be, there being no patent right to contend with, the additional expense from the extra labor in shearing, will probably not exceed three or four cents per ton.

These experiments developed the fact that the existence of fibre is caused by the rolling being in one continuous direction; and therefore fibre may be produced in any required direction, or if it is desired to have iron free from lamina and equally strong in every direction, it is only necessary to roll the bars alternately at right angles with the former axis. This is an important discovery in iron manufacture. By its application, the surface or even the entire depth of rail bars is hardened so that abrasion from the sliding of the rolling and working stock is reduced, and the rigidity of the rail is increased. The simplicity of the remedy, the facility with which it may be managed, and the unerring certainty that the metal so worked will be devoid of lamina, must eventually, we think, secure its introduction into iron works generally.

"Apart from the great advantage of a non-laminating metal, the rails prepared under this plan of cross-piling, displayed qualities which rendered them peculiarly valuable for railway purposes.—When tested by a heavy weight falling freely on them from a height of fourteen feet, the indentation occasioned by the impact was very much less than that on rails manufactured in the usual way; and tested by supporting them at the ends, and suspending a weight of two tons for a few minutes on their centre, the permanent deflexion was also found greatly in favor of the cross-piling. The mechanical action of the rolls in neutralizing the previous fibrous structure, appears to have condensed the particles of metal, and to have violently expelled the cinder and other extraneous matter with which it was combined. The increased rigidity appears also to have resulted from the increased density of the metal in the upper portion of the bar, offering a greater resisting medium to compression.

This neutralizing the tendency of bar iron to resolve into the fibrous structure, is partially understood in the manufacture of boiler plate and sheet iron. The plan followed in these factories consists in alternately presenting the end and side of the plate to the action of the rolls, whereby the expansion of the metal is equal in each direction; but this procedure, though well adapted to neutralize the formation of fibre when the object operated on is a plain iron plate, is inapplicable in the case of rails by reason of their angular section and great length—circumstances which render it essentially necessary that their movements be in the same plane.

The beneficial application of the principle of cross-piling is not limited to the manufacture of non-laminating rails; it may be advantageously extended to various descriptions of wrought iron for engineering and building purposes, where a partial or total absence of lamina is desired. In the manufacture of wheel tyres it will be found especially valuable; in manufacturing, roofing and other iron, it may be used with considerable economy of materials; its qualities of rigidity and tenacity combined, will render it of essential service to ship builders; to steam boiler makers and others,

requiring angle iron possessing a tenacity equal in every direction, it must prove of great importance; while the facility with which the rigidity and hardness of cast iron can be communicated to wrought iron without impairing its tenacity, will doubtless ensure its extensive adoption in the manufacture of malleable iron frames for the engines of ocean-going steamers."

#### The Marine Steam Force of Great Britain.

Great Britain possesses one hundred and forty-seven steam-ships, including three in Canada, and thirty-two iron steamers, eleven ranging from 1,547 to 1,980 tons. Of these, four were formerly 76-gun ships, and have now engines of 450 horse-power. The largest, the *Simoom*, of 1,980, has only 350 horse-power; the *Terrible*, however, of 1,850, has engines of 800 horse-power; the *Termagant*, of 1,547, has engines of 620 horse-power; while the *Arrogant*, of 1,872, has only 360 horse-power; the *Retribution*, of 1,641, has 400 horse-power. One of the above eleven, the *Penelope*, was a 46-gun frigate. Fifteen from above 1,200 and under 1,500 tons, twenty-seven above 1,000 and under 1,200, twenty-three above 700 and under 1,000, nine above 500 and under 700, twenty-seven from 250 and under 500, twenty-two from 150 and under 250, four from 42 to 149; three on the lakes of Canada, one of 406 and of 90 horse-power, and one of 750 and of 200 horse-power; twelve packets, 237 to 720, some of which are very fine vessels; 58,643 in commission, and 58,501 tons in ordinary. Of the steamships, there are built of iron—the *Simoom*, 1,984; the *Vulture*, 1,764, both 350 horse-power; the *Greenock*, 1,418, and 550 horse-power; the *Birkenhead*, 1,405, and 556 horse-power; the *Niagara*, 1,395, and 350 horse-power; the *Trident*, 850, and 350 horse-power; the *Antelope*, 650, and 264 horse-power; the packet *Lizard*, 340, and 150 horse-power; the *Bloodhound*, 378, and 150 horse-power; the *Grappler*, 557, and 230 horse-power; the *Sharpshooter*, 503, and 202 horse-power; the *Harpy*, 344, and 200 horse-power; the *Myrmidon*, about 350, and 180 horse-power; the *Sphinx* and *Fairy*, about 300, and 110 horse-power; and four other smaller vessels, of 20 to 9 horse-power. Six of the packets are built of iron. Screw-steamers on the stocks, viz., one 80-gun at Devonport, one 80-gun at Woolwich, and one 80-gun at Pembroke; in all, one hundred and fifty steamships. Then there is the mercantile steam power. The steam vessels registered in the port of London on the 1st of January, 1851, were three hundred and thirty-three; one hundred and seventeen under 100 tons, sixty-four from 100 to 200, twenty-six from 200 to 250, twenty-seven from 250 to 300, sixteen from 300 to 350, nine from 350 to 400, ten from 400 to 450, eight from 450 to 500, three from 500 to 550, seven from 550 to 600, three from 600 to 650, six from 650 to 700, two from 700 to 750, five from 750 to 800, three from 850 to 900, one from 900 to 950, eight from 1,000 to 1,500, six from 1,500 to 1,800, eleven from 1,800 to 2,000, and one above 2,000 tons. In Liverpool there were ninety-two steam vessels; twenty under 100 tons, 49 from 100 to 200, twelve from 200 to 400, six from 400 to 600, three from 600 to 800, one of 1,300 tons, and one of 1,609 tons. At Bristol there were thirty-one steam vessels; eleven under 100 tons, fourteen above 100 tons and under 300, three from 300 to 500, two from 500 to 600, one (Great Britain) of 2,936. At Hull there were thirty-four steam vessels; eight under 100 tons, seven from 100 to 200 tons, eight from 200 to 400, eight from 400 to 700, two from 700 to 1,000, and one of 1,320 tons. At Shields there were fifty steam vessels; forty-eight under 100 tons, one of 388, and one of 105 tons. At Sunderland there were thirty-two steam vessels under 100 tons. At Newcastle-upon-Tyne there were one hundred and thirty-eight steam vessels; one hundred and thirty under 100 tons, six from 100 to 300, two from 300 to 500. At Southampton there were twenty-three steam vessels; nine under 100 tons, nine from 100 to 300, five from 300 to 500. At Glasgow there were eighty-eight steam vessels; fourteen under 100 tons, forty-eight from 100 to 300, sixteen from 300 to 700, three from 700 to 1,000, five from 1,000 to 2,000, two from 2,000 to 2,500. At Leith there were twenty-three steam vessels; eight under 100 tons, twelve from 100 to 500 tons, three from 500 to 1,000 tons. At Aberdeen there were sixteen steam vessels; three under 100 tons,

four from 100 to 300, three from 300 to 600, five from 600 to 1,000, and one of 1,117 tons. At Dublin there were forty-four steam vessels; three under 100 tons, fifteen from 100 to 300, thirteen from 300 to 500, thirteen from 500 to 800 tons. At Dundee there were ten steam vessels; five under 100 tons, two from 100 to 300, three from 500 to 800. At other ports there were two hundred and seventy steam vessels; one hundred and thirty-nine under 100 tons, sixty-one above 100 tons and under 250, forty-five from 250 to 500, twenty-two from 500 to 750, and three from 750 to 1,000.

#### National Scientific Convention at Albany.

The annual meeting of the American Association for the Advancement of Science was held this year at Albany, commencing on Monday, August 18th. Prof. Louis Agassiz was chosen President. Among the distinguished gentlemen present, we notice the names of Prof. O. M. Mitchell of Cincinnati, Prof. Alex. D. Bache, Supt. U. S. Coast Survey, Lieut. C. H. Davis, U.S.N., Superintendent of the Nautical Almanac, Com. Wilkes of the Exploring Expedition, Prof. Joseph Henry of Washington, Prof. Loomis of the New York University, Prof. Renwick of Columbia College, Prof. Olmsted of New Haven, Prof. Gillespie of Union College, and Wm. Mitchell, Esq., of Nantucket, the Astronomer, accompanied by his daughter, Miss Maria Mitchell, who recently received a gold medal from the King of Prussia for her own astronomical discoveries.

An interesting description of samples of ancient cloth found in the mounds of Ohio, formed the contents of a paper presented by J. W. Foster, U. S. Geologist. Mr. F. said that as long ago as the year 1838, he had received from a person residing in Charlestown, Jackson county, Ohio, several fragments of cloth which had been taken a few days previously from a mound in the vicinity. When found, they enveloped several sets of copper rings, and were most of them much decayed. He hesitated about making the matter public, for fear that it would lead to erroneous opinions, as it was at variance with the prevailing ideas of the degree of civilization and knowledge of the arts among the mound builders. But he has recently come into possession of additional and corroborative evidence. Within the last six weeks he had received from Mr. John Woods, a gentleman who occupies a high official station in Ohio, additional samples, accompanied by a description of the circumstances under which they were found. In grading the track for the Cincinnati, Hamilton and Dayton railroad, it was found necessary to cut away one side of a mound on the west side of the Great Miami river, in Madison township, Butler county, Ohio. This mound is about two miles north of Middletown. Its height was from 16 to 20 feet, and according to the old settlers, it was covered 50 years ago with large forest trees. The workmen, in digging away the side of the mound, found an arrow, and a considerable quantity of cloth and bones. The workmen said they had found pieces of cloth connected with tassels or ornaments of cloth. The cloth was frequently in thick folds, half a dozen thicknesses being together.

It seems pretty certain that the cloth must have been made, and the mounds built, by a race of people anterior to the North American Indians. There is no evidence, said Mr. Foster, that the Indians possessed the art of spinning and weaving, when first known to the white man. An art so conducive to the comfort and convenience of man, when once acquired would not become lost; and the appearance of the cloth, the material of which it is

composed, and the mode of its fabrication, preclude the idea of its being European fabric, obtained by the Indians. The texture of some of these samples could not have been formed in an ordinary loom, but is undoubtedly the result of handiwork.

These facts have an important bearing on the Ethnology of the people by whom the mounds were built. They indicate a higher degree of civilization, and a greater progress in the arts, than had been attained by the Indians when first known to the white man. They go far to disprove the present race of Indians from the mound builders—a laborious and intelligent people, who have left abundant memorials of their existence from the confines of Lake Superior to those of the Gulf of Mexico.

The fabric in both samples appears to be composed of some material allied to hemp, but less readily recognised in the charred samples than in the others, and the separation between the fibre and the wood appears to have been as thorough and effectual as is accomplished at this day by the processes of rotting and heckling. The thread, though coarse, is uniform in size and regularly spun.—The texture in the specimens from Jackson county as well as in some of those from Butler county, is formed by the alternate intersection of the warp and woof; but in others from Butler county, the woof is wound once around the warp—a process which could not be accomplished, except by hand.

There is no reason to doubt that these textile fabrics are the work of the mound builders. The art of spinning and weaving was practised by the Peruvians when their country was first invaded by the Spaniards, and samples of cloth and the distaff on which the thread was spun, are associated with the oldest monuments. At Pachacamac, 30 or 40 miles from Lima, where stands the Temple of the Sun, there are numerous remains of walls built of sun-dried bricks, indicating the site of a once large and populous town. In the burial grounds are found numerous mummies in a sitting posture, wrapped in many folds of cloth, with an exterior covering of coarse matting. It is composed of a regular warp and woof, the thread being twisted or spun, and is often wrought in variegated patterns. The fabric consists of the wool of the lama or alpaca, and perhaps in some instances of cotton, which grows there spontaneously. Spindles have also been found in this connection, with yarn upon them; also articles of pottery, filled with corn, and various other utensils.

A paper was presented by Prof. E. N. Horsford, on the permeability of metals to mercury.

Daniel observed that bars of lead, tin, and zinc, became penetrated by mercury, when partially or wholly immersed in it. He noticed that a crystallized amalgam was formed in the case of each of the several metals. Prof. Henry modified the experiment of Daniel, in the case of lead, giving to the bar the form of a syphon, one end only of which was immersed in the mercury. He discovered the beautiful fact that mercury may not only be carried through the bar in this form, but that it will drop from the longer division of the bar, thus exhibiting the syphon experiment, employing a solid bar for the tube, and mercury for the liquid.

Prof. Horsford said that he had tried numerous experiments in the study of the laws of this phenomenon. His first object was to ascertain whether the bar when saturated, had increased in specific gravity; but the results were so conflicting, for some reason unknown, that he was unable to say whether the specific gravity remains unchanged,



increases or diminishes, with the addition of mercury.

He also wished to ascertain the velocity of transmission of mercury. Prof. Henry had observed that the progress of mercury in the lead was much more rapid in cast than in hammered lead. Upon noting the progress from day to day, most unexpected results had presented themselves. In a vertical bar, with the mercury at the bottom, the progress is at first rapid. It diminishes in velocity, however, from day to day, until after months, and having reached a height of between six and seven inches, it is not one-thousandth as rapid as at the outset. In one instance the velocities were as follows:

In 24 hours it rose.....0.085 mm.  
In 24 hours more.....0.010 "  
In 16 days more.....0.002 "

To ascertain if this moderate elevation was influenced in any degree by gravitation—several experiments were made.

Mercury was presented at the top of a bar 0.80 m in length. Its descent was astonishingly rapid. In ten hours it had penetrated 360 mm.

The first quantity having all passed into the bar it ceased to flow. Upon the addition of another portion the flow was resumed. In less than two days the mercury dropped from the bottom. This occurred in the night, and the time was not noted.

This observation is of especial importance in its bearing upon the theory of the forces which cause the movement of the mercury.

Gravitation evidently facilitates the transmission of the mercury when flowing from above downward. It, of course, opposes its flow from below upward.

To ascertain the further influence of gravity, a bar about five inches long, saturated with mercury was withdrawn from the cup and suspended. After a time a single drop of mercury oozed from the lower end and fell. Whatever the force that held the mercury in the bar it was not strong enough to retain all of it in opposition to gravity. He mentioned, however, that from several other saturated bars of less length, similarly suspended, no mercury escaped.

It was found upon analyzing the drops which fell from the bar, that they were composed of about 98 per cent. of mercury, and 2 per cent. of lead.

The presence of lead in the mercury, which was observed in the repetition of the syphon experiment, suggested the inquiry as to whether it came from the end of the bar or syphon, or from the interior as well as the end.

In the latter case, the interatomic spaces would be increased, and the mercury under the influence of capillary attraction and gravitation might be expected to flow faster. To ascertain if this was the case, a syphon bar was arranged, and the mercury was suffered to drop for ten days, the quantity being weighed each day. The quantities that flowed through were as follows:—

1st .....	5.4169	6th .....	18.9119
2nd .....	5.7906	7th .....	24.6699
3rd .....	8.6281	8th .....	29.5954
4th .....	11.4976	9th .....	34.6036
5th .....	15.4280	10th .....	40.0357

There could be little doubt that the channels through the lead were increased in diameter, as the quantity of lead that flowed through in a given time was augmented nearly 800 per cent. The slightly changed condition of the end of the bar supported this conclusion.

A drawn bar saturated with mercury became brittle, as Daniel has observed. It was so brittle

as to be readily broken by an effort suddenly to bend it. Such a bar, scraped brightly and laid aside, in a few weeks lost its brittleness and peculiar texture and recovered the properties of the original lead.—It had lost its mercury by evaporation.

Prof. H. had also made experiments with tin, and had found that mercury penetrates tin more rapidly than lead, and exhibits the syphon action. As the bar of tin becomes saturated the whole mass begins to crystalize, and splits into irregular longitudinal fissures. If at an early stage in this crystallization the bar is bent, the outside cracks off, revealing a pith as distinct as if it had been at first cast and then a sheath cast around it.

If the crystallization be permitted to go on, the fissures penetrate to the centre of the bar. Daniel observed that a square bar split into triangular prisms, the separating fissures following the diagonal planes. If the top and bottom of the bar were right angled terminal planes, the crystallization freed a pyramid at either extreme.

The bar being irregularly cylindrical, the fissures were formed as in the case of the prism—along the lines of least resistance. In looking at these fissures and the pith just referred to, and at the septaria which abound in the shales of the Genesee Valley, in Livingston County, of which numerous specimens occur in various other widely separated localities, it is impossible to resist the conviction, 1st, that the concentric arrangement in the latter case may have been produced by a process illustrated in the experiment with the tin bar, showing the interior pith, and not necessarily by aggregation, and 2d, that the fissures filled by brown carbonate of lime, giving rise, when water-worn, to the tessellated appearance of the tortoise shell have been formed by expansion along radial lines, producing openings where there was least cohesion.

#### Extensive Railroad Buildings.

The Galena and Chicago Union railroad company have made arrangements for building forthwith, a short distance west of its present depot, on the north branch of the river, a large round house for locomotives, machine shop and a smith shop. The buildings, together, will require 700,000 brick and 150 cords of stone.

The locomotive house is to be a half circle, with a radius of 90 feet. The walls are to be 20 feet high.

The machine shop is to be 40 by 140 feet, and two stories high. It is to be of ample dimensions for the construction and repairs of the cars and machinery necessary to the operation of the road.

#### North Carolina.

*Extension of the Spartanburgh and Union Railroad.*—A meeting was held in Rutherfordton, on the 6th instant, to take into consideration the construction of a railroad from Spartanburgh, S. C., to that place. Gen. N. F. Jones was appointed chairman, and G. N. Baxter, secretary. Col. Simpson Bobo, of Spartanburgh, explained the object of the meeting, and showed the importance of the enterprise to the people of western North Carolina.—Other addresses were delivered. Upwards of ten thousand dollars were subscribed. A committee of five was appointed to solicit subscriptions, and report at an adjourned meeting to be held at the same place on the second Monday of September next. The Mountain Banner, from which we get the above proceedings, says that the South Carolina visitors met with better success than was anticipated, and that \$130,000 more are necessary to ensure the building of the road.

#### Baltimore.

*Our Western Connections.*—The straightest and shortest line of railroad from the Atlantic to the Mississippi river at St. Louis, is, as has been demonstrated by the Baltimore and Ohio railroad, to Parkersburg and Cincinnati, and thence through Indiana to St. Louis; and the respective States through which the road passes, have all granted authority to make the road. That from Cincinnati to St. Louis is about to be commenced.

The President of this company advertises in the Cincinnati papers for proposals for making forty-five miles of the road from Cincinnati west. The Commercial learns that a portion of the Illinois division of the line will be immediately put under contract, the surveys having just been completed, and that a further extension of the road from Cincinnati extending to the valley of the east fork of White river, will be put under contract as soon as it can be properly located. This will intersect the Jeffersonville road. Several of the counties in Indiana engage to prepare the road for the superstructure through their respective limits, and take their pay in the stock of the company.

Thus commences the work on the road west of Cincinnati.

The Baltimore and Ohio railroad will be completed by the first of February next to Tygart's Valley bridge, where the Northwestern railroad, that runs to Parkersburg, commences.

We have stated that the company to make the road from Tygart's Valley to Parkersburg had been regularly organized, and that B. H. Latrobe, Esq., had been appointed the chief engineer. We have the gratification of announcing that, with that promptitude of action which marks everything he undertakes, Mr. Latrobe has already organized a full corps of engineers to survey the route of the road, with a view to its location, and that they will in a short time enter upon their work.

The prospects of the company are, as this prompt movement towards locating the road is evidence, most encouraging, and there is no reason to doubt that ample means will be promptly supplied to complete the road at the earliest possible day. The action of our City Council, unanimously pledging the aid of the city corporation to subscribe to the stock of the company, we have every day assurance meets with the hearty approbation of all our citizens, and is but the expression of their individual wishes in regard to the matter.

This is the line of the *straight road* to St. Louis, and it must be made. That is the conviction, that is the determination of the people of Baltimore.

It has been stated, with some show of boasting, by the Philadelphia North American, that the line of the road from Cincinnati to Parkersburg has been diverted from the straight line, by the determination of the Cincinnati and Belpre company to carry their road to Marietta, which is some three miles above Belpre on the Ohio river, instead of to Belpre; and that thus the Parkersburg road will be thrown off of the connection.

We may not complain that a road is to be made to Marietta, and thence carried up the river to Wheeling, for that road secures to us a better connection with Cincinnati than it can do to any other city on the Atlantic border; but it does not follow, that because the road is to be made to Marietta, it will not also be made to Belpre. We are not to suppose that a policy would prevail in Ohio, which would forbid the extension of the road from Belpre to connect with that to Cincinnati, when that connection would complete the straight line through Parkersburg to Baltimore. We do not suppose anything of that kind. We are sure it would be otherwise. But even if such a policy could control the matter, we are not left without an alternative, which even some, who have fully considered the subject, consider our best policy. The Legislature of Virginia could have, and would have, no objection to authorising the road to be extended down the Ohio river, to connect with the railroads now completed, in Kentucky, and thus give to us a continual line of railroad, without the necessity of crossing the Ohio river, by ferry, to Louisville. By this route, it is true, we pass Cincinnati on this side of the river, but we go down to Louisville, avoiding the falls there, and secure a connection at all seasons, with boats plying on the Mississippi and the lower parts of the Ohio river; and thus

open to us a trade with the south and southwest for which no other city can advantageously compete with us.

We will not be driven to this alternative; but it is well that we understand we have it.—*Baltimore Patriot.*

#### Vermont.

**Rutland and Burlington Road.**—Total cost, June 1, 1851, \$4,343,441 06, of which \$1,697,700 has been realized from common stock, \$348,200 from preferred ditto, and \$1,615,788 25 from bonds, and the remainder exists in notes payable (\$529,952 81) and preferred stock (\$151,800) not taken. The equipment embraces 17 locomotives, 10 passenger cars, 4 baggage ditto, 220 eight wheel box freight cars, 57 ditto platform, 20 four wheel box ditto, and 57 gravel ditto. The gross receipts for the year were \$220,351 13—the current expenses \$127,991 67, less materials on hand \$50,250—balance \$77,741 67. The receipts for the first half of 1851 show a gain of 50 per cent. over those of the same months in 1850.

#### Illinois.

**Peoria and Oquawka Railroad.**—We find in a recent number of the Knoxville (Ill.) Journal, a communication from James Knox, Esq., President of the Peoria and Oquawka railroad, which contains some facts not heretofore published, with regard to the progress of the work. It has now been but 6 or 8 weeks since the organization of the company. During this period, as has been already stated, the company have secured the old grade and right of way from Peoria to Farmington. From a recent examination of this grade, it is found to be in a much better condition than was anticipated. Its actual value to the company cannot be less than \$60,000, and may be \$100,000. The services of Col. Morgan, a skilful and experienced engineer, have been secured, and the necessary surveys will be made immediately, to prepare for contract the old road to Farmington; he will also make such reconnaissance of the residue of the route as will enable him to make a preliminary report to the Directors. A meeting of the Board will then be held to decide upon further measures; and upon the steps to be taken at that meeting will depend the question whether the road shall be immediately pushed through to a successful termination, or whether its progress shall be delayed by dilatory and tardy measures. Much also depends on the amount of means in the hands of the directors. Aside from the old grade, the assets of the company consist of \$200,000 corporate subscription, and about an equal amount of individual subscription to the stock. Mr. Knox states that if the subscriptions could be increased to \$500,000 before the meeting of the Board, at that meeting measures will undoubtedly be taken for the immediate completion of the road to Farmington. A sum of \$100,000 only is now required to render available and productive the money already expended in the purchase of the old grade; and with this assistance, it is confidently predicted that in six months the road will be in operation to Farmington.

There is a probability of an eastern connection with this road, which will greatly enhance its value. A road from Springfield to Peoria is now being surveyed, with a fair prospect of speedy construction; and an agent of the parties interested in that road was in Peoria a few days since, for the purpose of making arrangements with the Peoria Bridge company for a track across that bridge. It is to be hoped that this enterprise may not be delayed for the want of the necessary means to ensure its progress.

#### Summer Freight Business on the Rochester and Syracuse Railroad.

We find by referring to the books at the office of the freighting department of this road that the summer business is very large notwithstanding that the canal is carrying forward a largely increased amount of freight. We give the following statistics:—The number of live cattle carried over the road from this city since May, was 1,654; live hogs 4,120; sheep 4,637. The aggregate weight of the whole was 3,318,675 pounds. It is estimated that 6,681,325 pounds have passed on the road from Buffalo eastward, making a total of ten million pounds in three months. Thus it will be seen that the Erie railroad has not taken all the cattle for the supply of the eastern market, even of those that come from the west. The company is having new cars built that will be much better than the old ones for the transportation of cattle, affording the stock much more room and air. We ascertained also, that the road has carried during the same time, from this city and way stations,

396,000	pounds of wool,
119,000	" of leather,
107,000	" domestic woollens,
1,776,000	" 8 mill merchandize.

It will be seen from this that the decrease in the exports of wool by canal—343,953 pounds,—is made up by the greatly increased amount sent per railroad to eastern markets. Last year the amount of wool shipped from here on the road, was 66,365 pounds.

The tolls paid by the company for seven months of the present year were as follows:

January	.....\$1,119 59
February	.....1,227 61
March	.....2,638 16
April	.....2,811 54
May	.....1,686 31
June	.....953 66
July	.....776 53
	—————\$11,213 50

The amount of tolls paid at Buffalo and Rochester is estimated to be about \$100,000 in six months. An equal amount must have been collected at Albany.

The number of passengers carried over the road during the last three months must show a considerable increase over last year, but we are unable at this time to obtain the figures.

It will be observed that the railroads and canals have their own distinct interests, and the facilities afforded by both are demanded by the public.—*Syracuse Star.*

#### Ohio.

**Central Railroad.**—On Thursday last we took a ride up the railroad as far as the "Black Hand," which is some sixteen or seventeen miles from this city. We were pleased to find the road more nearly completed than we had expected. The grading of most of the sections is done, and many of them have already received the ballast, and are now ready for the cross-ties and rails. We were very much surprised at the amount of work which had been done by the Messrs. Taggart & Gormley on section 17. They have cut the track of the road through solid rock, 700 feet in length, and 70 feet deep at the highest point. In cutting through this rock they consumed in blasting about 1,100 or 1,200 kegs of powder, costing some thirty-five hundred dollars. The whole work has been completed in one year from the commencement. The road at the point where the rail will be delivered is ready for its reception, and no time will be lost in laying it down as soon as it may be received.—*Zanesville Courier.*

**The Cleveland, Painesville and Ashtabula Railroad.**—This work, between Cleveland and Ashtabula, is being carried on towards its completion at a giant's pace. The heavy work at Willoughby is nearly done, and the bridges there and at Painesville are nearly ready for superstructure. In the month of August we are assured, the road will be open to Painesville. The piers at Ashtabula are now going up rapidly—a reinforcement of masons having come on; and the grading westward from the Ashtabula station is pushed on by Mr. Burke, the contractor, at a surprising rate.—*Ashtabula Telegraph.*

#### Pacific Railroad.

Col. Benton was invited to attend the recent railroad convention at St. Louis, but excused his attendance by a letter, in which he took the ground that the Pacific railroad is the Central route, and every national consideration requires it to be made with the aid of the National Government. He speaks of the contemplated Southern route by way of El Paso, and the superior advantages which would be possessed by the Pacific road. The only obstacle is the Rocky Mountains, and that is a very slight one, as the country rises gradually and imperceptibly, 7 to 8,000 feet before their base is reached and there are then many passes between the head of the Del Norte and the South Pass—between 38 and 42 degrees—very practicable, and already marked out by the buffalo trails. Humboldt and other naturalists had mentioned that these animals were the most unerring guides to road makers; and there were plenty of buffalo paths, where a railroad could be constructed at small expense. Col. B. remarked that he had no doubt the whole road would be eventually made. If not made by the federal government, as it should be, it will be made by piecemeal, by companies and communities. Thus 300 miles in the state of Missouri were already begun at one end; the people of California propose beginning at the other end; and the Mormons propose to make it from the great Salt Lake to the Sierra Nevada. He considered the public lands to be a proper fund for making national roads; and now that they are squandered by the hundred millions of acres in bounties, which go to speculators, the only way to save them from spoliation, and to make them available for present and future public good, is to apply them in mass to this and other great national objects.

He alluded to Whitney's scheme, in which the lands were to be granted to him and his "assigns," and he thought that if an amendment should be inserted, that no member of Congress, nor any near relative of a member, should be an assignee, the project would never be heard of again. He concluded by encouraging them to persevering exertion, which in a good cause is sure to be ultimately attended with success.

#### European and North American Railroad.

Another large and enthusiastic meeting of the friends of this enterprise, was held in the city of Portland, on the evening of the 19th inst. Hon. J. C. Noyes presided, and Allen Haines officiated as Secretary. The meeting was addressed by John A. Poor, Esq., who gave a concise history of the progress of the project since the last meeting, and of its present condition and prospects. Speeches were also made by John Neal and J. B. Brown, Esqs., of Portland; Judge Chandler, of Calais, and Mr. McGee, of Boston, editor of the American Celt.

Resolutions were unanimously adopted to the effect that in consequence of the geographical position of Nova Scotia and Cape Breton, on the one side, and Ireland on the other, more nearly approximating each other than do any other portions of the continents to which they pertain, within the limits of safe and convenient navigation, this proposed route of communication between the continents, by the European and North American railway, and a line of steamers to Galway, must ever be the shortest, cheapest, and safest route for travel and business, and therefore free of all competition from any other line or route; that, in view of this general character of the European and North



American railway, favorably affecting so greatly as it must, when completed, the intercourse by travel and business between the two continents, it is entitled to encouragement and support from the country generally, by way of subscription to the stock, beyond that of any other like enterprise now making claims therefor, upon the public attention; and that the existing uncertainty in New Brunswick and Nova Scotia, as to the particular mode by which they will construct the portions of the road within their borders, affords no reason to delay the subscription for the completion of that part in Maine, and no reason to doubt that those Provinces will early determine between the several modes now under their consideration, and early enter upon the construction, and prosecute to completion, in full time to run their cars in connection with those on our side of the line, the portion within those Provinces respectively.

#### Steamers in California.

The first steamer which entered the harbor of San Francisco, was the California, belonging to the Pacific Mail Steamship Company's line. She arrived at that port on the 28th of February, 1849. Since that time about two years and a half have elapsed, and at the present time, twenty-nine ocean steamers are running between San Francisco and the various ports on the Pacific—a number nearly equal to the number sailing out of the port of New York. There are also several more either building for that trade, or on their way there. It is said by those who have recently returned from that region, that the gold in the mines is inexhaustible—that it will last as long as the world stands; and it may therefore be reasonably expected that within a few years steam communication will be opened with the Sandwich Islands and the other important groups of the Pacific, Japan and China, as well as Australia and the adjoining British colonies.

#### Illinois.

**Rock Valley Railroad.**—We learn from the Woodstock (Illinois) Democrat, that the above road has been located from the state line at Big Foot, to Woodstock, and from thence to Chicago, on the most practicable route. It is stated that the whole route from Janesville to Chicago will be immediately surveyed, and surveyors are now at work between Big Foot and Woodstock. Mr. Smith, the President of the road, is now on a visit to the East, for the purpose of having the whole route from Janesville to Chicago put under contract, in the hands of responsible and competent contractors.

#### North Carolina.

**The Raleigh and Gaston Road.**—The latest intelligence concerning the prospects of resuscitating this road, is, that a public meeting was held in Warrenton on the 12th inst., when after addresses by Weldon N. Edwards, and Gen. Saunders, it was ascertained that the subscription in Warren county amounted to 394 shares, or \$39,400. This leaves over ten thousand dollars of the sum expected from this county, still to be raised.

By a card of Gen. Saunders', dated Aug. 13th, and published in the last Standard, it appears that stock to the amount of nearly three hundred thousand dollars had been taken, and that the executive committee were assured that the subscriptions would certainly reach that amount. With the view of raising the remaining hundred thousand dollars, necessary to secure the charter, the committee recommend that subscription books be opened, with the understanding that the subscribers to this portion of the stock can be relieved, in whole or in part, should they desire it, in the purchase of the iron, for which, as the committee are advised, a favorable contract can be made.

The committee also recommend a general meet-

ing, to be held at Warrenton, on Friday the 12th September next, for the organization of the company, believing that the whole stock, by that period, will have been subscribed.—*Wilmington Herald.*

#### Ohio.

##### Cincinnati and Marietta Railroad.

**Important Accession to Railroad Stock.**—The board of directors of the Belpre and Cincinnati railroad company, on the 12th inst., accepted the following subscriptions to the capital stock of the company, viz:—

Washington county, Ohio.....	\$200,000
Town of Marietta, Ohio.....	100,000
Town of Harmar.....	50,000

Amount.....\$350,000

The Scioto Gazette also states that the directors have established a point in their eastern line, on the farm of David Jones, Elk township, Vinton county, three miles east of McArthur. They also adopted an order, obligating the company to make a switch, or branch road, to McArthur, from their main line, in case the latter pass on the surveyed route  $2\frac{1}{2}$  miles south of that town;—and on condition that the contemplated subscription of \$100,000 be made by the county of Vinton to the capital stock of the railroad company.

#### Ohio.

##### Cincinnati, Wilmington and Zanesville Railroad.

—Three parties of engineers are now engaged in the survey of this line preliminary to its location. The line has been divided into three divisions, the first extending from Morrow, the point of intersection with the Little Miami Road, to Washington in Fayette county; the second from the latter point to Lancaster, and the third thence to Zanesville. It is expected that the line as far eastward as Lancaster, and perhaps to Rush creek, a distance of about ninety miles, will be ready for contract by Christmas.

#### Illinois.

**Central Railroad.**—One line of the survey upon the second division (under charge of Chas. Floyd Jones) of the Central railroad, leading from Decatur to the baseline, has already been run, and the engineers are engaged in making out the estimates. This is very nearly an air line, and about 76 miles in length. Other examinations will doubtless be made; but it is thought that the present line will be adopted with but little variation.

#### Virginia.

The work on the Orange and Alexandria and Manassas Gap railroads is going on with spirit and energy. We do not know, says the Alexandria Gazette, two works in the country which have been more fortunate than these, in the selection of their officers and engineers. They devote themselves to their tasks with a zeal and determination which makes itself felt in all the operations of the companies.

#### Illinois.

**Peoria and Oquawka Railroad.**—The survey of the Peoria and Oquawka railroad will be commenced next week, under the direction of Col. Morgan, formerly of the Galena and Chicago road. Col. Morgan ranks among the first civil engineers of this country, and has had great experience on the most important public works in the Eastern and Western States.—*Peoria Dem. Press.*

**Alton and Sangamon Railroad.**—Mr. Shipman, the engineer of the Alton and Springfield road, was in town last week. Mr. S. informs us that he will have by next Saturday completed the preliminary survey of the Bloomington and Peoria branch.—The principal line runs north from Springfield about thirty-five miles and crossing Sugar creek,

the Bloomington branch will run on the divide between Sugar creek and the Kickapoo, while the Peoria branch will come up on a line almost north and south. The road will be in running order as far as Springfield next December, and the branch to Peoria will be pushed on vigorously.—*Ibid.*

#### Ohio.

**Toledo, Norwalk and Cleveland Railroad.**—This road is now all under contract, and it is determined not to open it to the public until it is completely ballasted. The contractors have heretofore been engaged on the Eastern roads, and have on hand every appliance for putting a large force upon the work. The iron will be laid down on the Western section of the road during the coming winter and spring, and on the residue of the line as fast as the work progresses.

#### Massachusetts.

**Lexington Railroad.**—The following is the list of directors of this road for the present year, viz:—Charles Hudson, James Dana, S. S. Littlehale, D. Farnsworth, N. Howe, Samuel Butterfield, Addison Gage. Hon. Charles Hudson was chosen President, and Wm. Stevens, Clerk and Treasurer.

It appeared from the annual report of the Directors that the whole income of the company last year was \$9,724 39, and that the increase of profits was equal to 44 per cent.

#### Railroad Law.

**Important Decision.**—At the late term of the Superior Court of New Hampshire, in the case of *Elkins vs. Boston and Maine railroad*, it was decided that railroads are not common carriers of goods and merchandise by their passenger trains, unless they expressly hold themselves out as such, and evidence that the railroad two or three times carried goods by such trains, does not subject them to this liability. Goods sent by such trains, are at the risk of the owners.

#### The Schuylkill Inclined Plane.

The Harrisburg (Pennsylvania) American, contains an estimate, from which it appears that the appropriation by the legislature of that state in 1849, of \$400,000, to avoid the inclined plane, was not only no expense, but a clear gain. This loan of \$400,000 was at an interest of six per cent., redeemable in thirty years.

The old road rendered useless by the avoidance, was directed to be sold, and was purchased for \$243,000. The cost of avoiding the plane was therefore, \$157,000. The 243,000 were, as directed by law, applied to the improvement of the Columbia railway, and an expenditure by the state of that amount, at some subsequent period, was rendered unnecessary by the proceeds of the sale of the old work. The plane when in operation, was kept up at the annual expense of \$31,000. The interest on \$400,000 at six per cent. is \$24,000—showing an annual saving to the state of \$7,000. This surplus together with its accumulation of interest, is directed to be invested annually in this loan, or any other loan of the commonwealth, if it can be purchased at its fair value. The annual surplus then being \$7000, and the loan redeemable in thirty years, it is evident the total saving in thirty years will be \$210,000, or \$53,000 more than the clear actual cost of the road to avoid the plane! to say nothing of the increased capacity of the road, its vastly increased business, and the largely increased tolls which have been received, all of which have been caused by the greatly improved condition of this branch of the public works. This loan, instead of being a burden to the people, and taking money out

of the treasury, is putting money into it, and may therefore be considered a profitable investment.

## American Railroad Journal.

Saturday, August 30, 1851.

### To Delinquent Subscribers.

We have recently forwarded a large number of Bills to our Subscribers who are in arrears, requesting them to forward the amount due, by MAIL, at our risk. Our subscribers are scattered all over the country; and as we cannot well send a Collector to each, we think we may, with propriety, request them to take the trouble to forward the amount due at our risk. Some of our leading Railroads and Engineers owe us for subscription for years. We expect that such subscribers, when called upon, will promptly forward us the amount due.

### Routes Across the Isthmus.

There can be no doubt that the Panama and Nicaragua companies which are located in this city, will do what they can to prevent the settlement of the difficulties in which the Tehuantepec company is now involved. The success of the latter, must render the privileges of the two former valueless; and as they have already—particularly the Panama railroad company—expended enormous sums on their works in progress, which must eventuate in a great, if not in a total loss, with the success of their rival, they will do all they can to defeat it. The extent of the influence of these companies we can hardly over-estimate, as they are possessed of abundant means, and their members occupy very commanding positions in society. The Tehuantepec company has more to fear from their opposition, than from all other causes. We have good reason for believing that attempts have been made, and will be made, to prevent our government from sustaining the claims of the latter company.

All these facts should be fully known. There can be no doubt whatever, that the Tehuantepec route is the best one for the commerce of the country, and for New York, as the centre of this commerce.—No city in the United States can flourish without conferring an immediate and substantial benefit upon this city. Our position is such that we have no rivals, and no work of magnitude can be projected on this continent, that would not be a positive advantage to us.

One great superiority of the Tehuantepec route over the other two, is in the saving of 2,000, or 3,000 miles in distance, and in reducing to this extent the journey to be performed by water. The saving in time in going to California would be at least from eight to ten days. But this would be but a small part of the advantage of this route.—The great cause of the sickness so prevalent upon the Panama route, is the sudden change of temperature which the traveller must undergo in running from a high northern latitude to the region of the equator. This change from a cold to an exceedingly hot climate, reduces the constitution so much, that a person falls an easy prey to the pestilential climate of Chagres and Panama. By adopting the Tehuantepec route, all these evils would be avoided, as will be readily seen without further remark.

So apparent are these advantages, that we have heard one of the leading members of the Panama company admit that if the Tehuantepec route succeeded, the former must fall to the ground. But we are fully persuaded that it is destined to fail from the bad management of its affairs, and from

the great difficulties to be contended with. Such we find to be the impression brought back by those returning from the Isthmus. Such is the opinion of well-informed engineers who have been in the service of the company. The result has fully proved that no reliance can be placed upon their estimates and statements. They are as ignorant, probably, of the amount required to carry them to the Pacific coast, and of the time necessary for this purpose, as any indifferent person in New York. The public are constantly inquiring, "what has become of the Panama railroad," and echo only answers. We have for a long time predicted that their efforts would end in a disastrous failure, and everything thus far has confirmed our opinion.

### Railroad Subscriptions.

The city of Covington has just voted \$200,000 to the Covington and Lexington railroad; making, with the amount previously voted, \$300,000 for that city.

The Louisville Journal says that Warren county has voted by a majority of 300 in favor of a subscription of \$300,000 to the Louisville and Nashville railroad.

The city of Louisville has voted \$1,000,000 to aid the Louisville and Nashville railroad, and \$200,000 to the Jeffersonville railroad.

*Hannibal and St. Joseph Railroad.*—Clinton county has voted the railroad subscription, \$20,000 in amount, by a large majority.

### The Pacific Railroad.

The President of this work, Thomas Allen, Esq., and the Chief Engineer, James P. Kirkwood, Esq., are now at the east for the purchase of iron and equipment for this road. The first division has already been let. Private subscriptions to the amt of \$1,000,000 have been raised, which carries with it an equal amount of State loan, so that the company have \$2,000,000 of immediate means. The State has voted \$2,000,000 to this line, and will without doubt increase the amount to one-half of the whole cost, which is estimated at about \$6,000,000. There now seems to be no doubt that the work will be pushed forward with vigor, and the road completed at the earliest practicable moment.

### Stock and Money Market.

We have but little to report that is not found in two or three late numbers. Money continues in demand, and there seems to be a general indisposition to meddle with new projects. Bonds of new works are without sale, and our friends will do well not to force them upon the market at present. Independent of the present scarcity of money, there is a feeling of distrust as to the future, and until this is dissipated, but few new engagements will be entered into. The shipments of specie continue large, and until this is checked, or till its consequences are fully seen, money will remain scarce.

*Louisville and Frankfort Railroad.*—The receipts during the month of July were as follows:—

For passengers .....	\$7,015 00
For freights .....	1,072 00
For mail service .....	371 00
	\$8,458 00
Expenses for same time .....	4,400 00

\$4,058 00

*Mad River and Lake Erie Railroad.*—The aggregate receipts of the Mad River and Lake Erie railroad company, for the first seven months of 1851, were.....\$209,534 76  
For the same period of 1850.....202,730 01

Increase over last year.....\$6,804 75

The receipts of the Galena and Chicago railroad during the first three months of the past two years, is as follows:—

	1850.	1851.	Increase.
May .....	\$10,644 04	\$14,338 23	\$3,724 17
June .....	9,748 93	16,627 68	6,874 75
July .....	9,335 25	16,660 67	7,315 42

Total.....\$29,728 24 \$47,616 58 \$17,888 34  
This shows an increase of about 60 per cent.

*Rochester and Syracuse Railroad.*—The statement of the condition of the Rochester and Syracuse railroad for the six months ending August 1, gives this very favorable view of the traffic of that road, showing, after a dividend of 5 per cent. a surplus of over \$90,000, notwithstanding the decrease in fares.

1851. Feb. 1, surplus profits .....	\$20,258 57
Receipts in February, 1851 .....	45,986 40
Receipts in March .....	51,369 31
Received for mail service .....	10,377 75
Receipts in April, 1851 .....	77,380 76
Receipts in May, 1851 .....	91,448 26
Receipts in June, 1851 .....	98,368 51
Receipts in July, 1851 .....	89,642 50

Total.....\$484,832 06

Expenses in February 1851 .....	\$24,192 09
Expenses in March, 1851 .....	27,843 80
Expenses in April, 1851 .....	22,603 32
Expenses in May, 1851 .....	27,796 27
Expenses in June, 1851 .....	28,479 75
Expenses in July, 1851 .....	30,189 51
Disbursements by Treasurer for last six months, ending Aug. 1, 1851 .....	7,925 12
Bonds \$421,000—Int. 6 mon's 7 per ct. ..	14,735 00
N. Y. State Stocks, \$200,000, at 5 1/4 " ..	5,500 00
N. Y. State Stocks, \$200,000, at 5 " ..	5,000 00
Dividend on \$3,997,200 capital stock, 5 per cent for last six months ending this 1st August, 1851 .....	199,860 00
Balance .....	90,707 19

Total.....\$484,832 06

1851. Aug. 1. Surplus profits.....\$90,707 19

*Vermont and Massachusetts Railroad Receipts.*—Receipts in the month of July, 1849.....\$11,996 36  
Same month last year.....16,006 27  
Same month this year.....18,645 30

*Androscoggin and Kennebec Railroad.*—Comparative exhibits of the earnings of the Androscoggin and Kennebec railroad:—

	Passenger Trains.	Freight.	Total.
May 1850.....	\$4,340 99	\$2,385 76	\$6,726 75
June " .....	4,517 12	1,760 47	6,277 59
July " .....	5,437 97	2,103 31	7,541 28

Total for three months.....\$20,545 62

May 1851.....	\$4,760 09	\$3,922 67	\$8,682 76
June " .....	5,173 49	3,544 56	8,718 05
July " .....	6,870 83	3,278 17	10,149 00

\$27,549 81

20,545 62

Gain.....\$7,004 19

*Michigan Central Railroad.*—The receipts of the Michigan Central Railroad company, for the month of July in each of the past two years, were as annexed:—

	1850.	1851.
Freight.....	\$11,324 66	\$23,048 14
Passengers.....	42,100 51	62,132 46
Miscellaneous.....	3,159 81	2,401 56

Total.....\$56,585 48 \$87,582 16

This shows an increase of more than fifty per cent, compared with last year. The greatest increase was in the freighting business.

*Saratoga and Washington Railroad.*—The receipts of the Saratoga and Washington railroad company, in July, were \$20,605 38, against \$13,933 03 for the same month last year, showing an



increase of \$6,672 35, equal to nearly forty-eight per cent.

The Boston Journal states that the Ogdensburg railroad is earning at this unfavorable season, an ample amount to pay double the interest required for the mortgage bonds, after deducting running expenses, as will be seen by the following calculation:—

Earnings from April 1 to August 1, 4 months, in round numbers.....\$124,000  
Estimating remainder of year at same rate say \$30,000 per month, which is much below what the result will actually be.. 240,000

The running expenses from April 1 to August 1, were not over 40 per cent. of the earnings..... 145,600

Nett amount first applicable to interest on mortgage bonds .....\$213,400  
7 per cent. on \$1,500,000 mortgage bonds. 105,000

\$364,000

Leaving \$113,400 or more than sufficient to pay the same amount of interest over again.

**Cumberland Coal Region.**—The following is the amount of coal shipped by the Chesapeake and Ohio canal, for week ending Thursday, August 21, at 3 o'clock, P. M.:—

By Frostburg coal company.....1,278 09 tons.  
By Maryland mining company..... 900 12 "  
By Borden mining company..... 822 12 "  
By Washington coal company..... 499 08 "  
By Alleghany mining company.... 456 00 "

Total tons for week.....3,957 01 "

Amount of coal sent by the Baltimore and Ohio railroad, for the week ending Saturday, August 16.

By Maryland mining company.....1,272 18 tons.  
By Frostburg coal company..... 562 03 "  
By Borden mining company..... 580 16 "  
By Alleghany mining company.... 194 02 "  
By Withers mining company..... 233 00 "  
By People's mining company..... 377 10 "  
By Washington coal company.....1,109 13 "

Total tons for week.....4,330 62 "

The exports of Breadstuffs from September 1, 1850, to the annexed dates in 1851, from the United States to Great Britain and Ireland, have been as follows:—

	From	To	Flour, bbls.	C. Meal, bbls.	Wheat, bush.	Corn, bush.
N. York.	Aug 26,	1,076,694	1,637	1,156,987	1,428,930	
N. O.	" 16,	213,233			113,000	
Phila.	" 22,	132,226	3,916	289,265	552,038	
Balti.	" 22,	75,339		33,080	141,594	
Boston.	" 23,	19,508			73,381	
Others.	" 16,	15,203			27,000	

Total.....1,532,203 5,553 1,479,332 2,335,943  
About same time last year.. 453,085 6,086 461,276 4,866,673

The Evening Journal gives the annexed statement of the quantity of flour, wheat, corn and barley, left at tide water during the 3d week in August in the years 1850 and 1851, as follows:

	Flour, bbls.	Wheat, bush.	Corn, bush.	Barley, bush.
1851.....	79,747	173,851	246,798	7,575
1850.....	71,612	69,001	155,034	3,800
Increase.	8,135	104,850	91,764	3,775

The aggregate quantity of the same articles, left at tide water from the commencement of navigation to the 21st August, inclusive, during the years 1850 and 1851, is as follows:

	Flour, bbls.	Wheat, bush.	Corn, bush.	Barley, bush.
1851.....	1,728,010	1,282,142	5,060,126	121,898
1850.....	1,052,180	599,895	2,366,940	130,903
Inc.....	675,830	772,247	2,693,186	dec. 9,005

**Wabash and Erie Canal.**—The Circular of the Trustees of the Wabash and Erie Canal is just published. The state of the finances is thus set forth:—

RECEIPTS FROM 1st DEC., 1850, TO 1st JUNE, 1851.  
Cash on hand, 1st Dec.....\$169,108 65  
Cash receipts from tolls and water rents..... 52,748 13  
Cash receipts from lands.....105,063 12  
Interest and exchange..... 2,049 75  
\$328,969 65

PAYMENTS.  
General expenses & rep's...\$60,932 25  
Construction of Canal, &c...143,078 98  
204,011 23

Balance on hand, 1st June, 1851.....\$124,958 42  
The receipts from tolls and water-rent in the seven months from 1st Nov. to the 1st June, 1851, are..... 69,870 35  
Thereceipts from tolls and water-rent in the seven months from 1st Nov. to 1st June, 1850..... 58,502 42

Increase.....\$11,369 93

The Trustees state that the crops of wheat and corn on the ground were larger than was ever before known throughout the entire line of the Wabash Valley, and the prospect of a large fall business is highly gratifying, if prices are such as to bring it out.

## Railway Share & Stock List;

CORRECTED WEEKLY FOR THE  
AMERICAN RAILROAD JOURNAL.

NEW YORK AUGUST 30, 1851.

## GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	1001
U. S. 6's, 1856	1051
U. S. 6's, 1862	110
U. S. 6's, 1862—coupon	113a114
U. S. 6's, 1867	1141
U. S. 6's, 1868	1161
U. S. 6's, 1868—coupon	1211
Land Warrants	140a145
Arkansas 6's	52a53
Alabama 5's	91a92
Indiana 5's	79a80
Illinois 6's, 1870	65a68
Kentucky 6's, 1871	105a106
Massachusetts sterling 5's	105a106
Massachusetts 5's, 1859	1001
Maine 6's, 1855	103
Maryland 6's	1021
Michigan	—
Mississippi	—
New York 6's, 1865	117a118
Ohio 6's, 1860	110
Pennsylvania 5's	89

## RAILROAD BONDS.

Atlantic and St. Lawrence, 6 per cent	85
Baltimore and Ohio, 1867	941
Boston and Providence 6's, 1855	101
Boston and Worcester 6's, 1855, convertible	1071
Bost., Concord and Mont. 6's, 1860, mortgage	871
Cheshire 6's, 1860	911
Connecticut River 6's, convertible	98
Erie 7's, 1859	101
Erie 7's, 1868	1071
Erie income 7's	91
Hudson River 7's, 1853	1011
Michigan Central, convertible, 8's, 1856	1041
New York and New Haven	1001
Norwich and Worcester, mortgage, 1860	80a85
Old Colony, 1854	971
Ogdensburg 7's, 1859	94a95
Portsmouth and Concord	80a85
Passumpsic 6's, 1859	941
Rutland 7's, 1863	97
Reading mortgage, 1860	80
" 1870	75
Sullivan, mortgage 6's, 1855	80
Vermont Central 6's, 1852	961
" 6's, 1856	911
Vermont and Massachusetts 6's, 1855	861

## RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Aug. 20.	Aug. 27.
Albany and Schenectady	961	—
Atlantic and St. Lawrence	60a65	—
Androscoggin and Kennebec	30a35	—
Boston and Maine	103	102
Boston and Lowell	1081	109
Boston and Worcester	1001	1001
Boston and Providence	841	841
Bost., Concord and Montreal	40	—
Baltimore and Ohio	711	—
Baltimore and Susquehanna	36	—
Cheshire	53	—
Cleveland and Columbus	—	—
Columbus and Xenia	—	—
Camden and Amboy	—	—
Connecticut River	60	—
Delaware and Hudson (canal)	—	—
Eastern	95	96
Erie	701	731
Fall River	921	911
Fitchburgh	1081	1081
Georgia	—	—
Georgia Central	—	—
Harlem	68	68
Hartford and New Haven	124	—
Housatonic (preferred)	52	—
Hudson River	70	—
Kennebec and Portland	50a55	—
Little Miami	—	—
Long Island	15	141
Mad River	—	—
Madison and Indianapolis	96	—
Michigan Central	104	1041
Montgomery and West Point	—	—
Michigan Southern	—	—
Manchester and Lawrence	97	89
Morris (canal)	141	151
New York and New Haven	101	1071
New Jersey	133	—
Northern	66	661
Nashua and Lowell	1071	—
New Bedford and Taunton	111	—
Norwich and Worcester	50	521
Norfolk County	22a23	—
Ogdensburg	30	321
Old Colony	65	66
Passumpsic	80	—
Pennsylvania	—	—
Pittsfield and North Adams	95	—
Philadelphia, Wilm'gton & Balt.	28	29
Petersburg	—	—
Richmond and Fredericksburg	—	—
Richmond and Petersburg	—	—
Reading	52	531
Rochester and Syracuse	105	1061
Rutland	53	47
Stonington	431	421
South Carolina	—	—
Syracuse and Utica	130	—
Sullivan	25	—
Taunton Branch	108	—
Troy and Greenbush	90	—
Tonawanda	—	—
Utica and Schenectady	130	—
Vermont and Canada	103	—
Vermont Central	30	311
Vermont and Massachusetts	251	251
Virginia Central	—	—
Western	1021	103
Wilmington and Raleigh	—	—
York and Cumberland (Pa.)	20	—

## New Jersey.

**Morris and Essex Railroad.**—We understand that surveys are being made for the extension of the Morris and Essex railroad to the Water Gap, in view of its ultimate extension into the Lackawanna valley, for the purpose of forming a junction with the Lackawanna and Western railroad, which is now on the eve of completion. If such a connection should be formed, a new route would be opened from New York to Great Bend on the Erie road; and upon the completion of the branches from Corning and Hornellsville to Buffalo, a parallel route to the Erie would be formed for almost the entire distance between the above cities.

**Quebec and Halifax Railroad.**

This great scheme, which contemplates the construction of a continuous line of railroad from Halifax to Hamilton, in Upper Canada, via Quebec and Montreal, seems likely to be carried out. We have already stated its general features. The Imperial Government offered to furnish the money, on the Provincial guaranty, at 3½ per cent. The cost of the whole line is estimated at \$40,000,000, to be divided among the three Provinces according to the extent of line in each. Canada is to build 800 miles, New Brunswick 400, and Nova Scotia 200—making 1400 miles in all. At \$30,000 per mile, the whole line will cost \$42,000,000. Canada has voted her quota. New Brunswick, it is said, will do the same. So will Nova Scotia. In the latter Province an election for members of the Provincial Parliament took place on the 28th instant, in which the railroad scheme was the issue to be tried. We have no doubt of its being favorable to the project.

A mass meeting of the friends of the railway was held at Halifax, for the purpose of nominating four persons to represent their views and interests in the lower branch of the Legislature. The meeting was addressed by Hon. Mr. Howe, who took occasion to make a public vindication of his course of action with respect to the railway scheme, and to state the influences which had operated in determining that course. He stated that the enterprise which they were attempting to carry forward was a very important one, and believing that a portion of the conservative party were convinced of the immense advantages to be derived from it, it had been his effort to combine that body with the liberal party, in carrying on the great work. This combination had taken place to a greater or less extent in England. Lord Stanley and Earl Grey, though radically opposed on almost every other question, set aside old party distinctions for the nonce, and combined to render that aid which the Provinces sought from the mother country. In Canada, also, Sir Allan McNab and the most intelligent and influential conservatives coalesced with the liberals in order to promote this great object. In New Brunswick there had been the same union between the two parties; party feeling was merged, sectional political differences were forgotten, in the desire of accomplishing an object which would be for the benefit of all classes of the community.

That being the state of the public mind elsewhere, Mr. Howe endeavored to bring about the same result in Nova Scotia. In order to do this, a proposition was made by the liberal committee to the other party, offering them one seat for the township of Halifax, and asking no pledge except that they should select a gentleman of character, honestly in favor of the railway. This proposition was made in good faith, from an earnest desire of causing unanimity and harmony between the two conflicting parties. The answer returned to this proposition was, that the conservative party would not be satisfied unless two members were allowed them, and these to go in entirely unpledged. Finding it was impossible to make a compromise with the other party, they were now to proceed to the selection of four gentlemen, liberals, and in favor of the railway, to represent the county and township.

Mr. Howe went on to state the existing aspect of affairs. He said that Canada had joyfully accepted the terms proposed by the British Government, and will build her portion, 800 miles; and New Brunswick is prepared to build her 400 miles.—

Now the question is, can Nova Scotia take upon herself the construction of 200, in order that she may obtain the benefit of the other 1200? When that was accomplished, Halifax harbor would be thronged with ships, and her commerce would bring wealth and prosperity into the lap of her citizens.

It had been stated that there would be opposition in the distant rural districts of the Province. Mr. Howe thought they were too well acquainted with their own interests to reject the advantageous prospect before them. He had no apprehension of the result, and he looked with confidence to the success of the project. All classes would be benefitted by it—the farmers, the merchants, the coasters, the fishermen—all would experience the benefits which this railway would open to them; and he had no doubt that the triumphant success of the work would show how these advantages were appreciated.

The following persons were selected as candidates for the Legislature: William Annand, Esq., John Esson, Esq., Lawrence O'C. Doyle, Esq., and B. Wier, Esq.

**St. Louis.**

St. Louis is destined to become the great city of the west. This is evidenced by her situation, her commercial facilities, and her rapid increase. But a few years ago she was an insignificant village; now she has risen to a mighty city, and is extending her commerce far and wide, while her influence is felt throughout the great Mississippi valley. Her population in 1835 was but 9,000; in 1840 it was 16,700; while at present she numbers not less than 90,000 souls, and is increasing at the rate of not less than 10,000 per year. Her imports for the present year will amount to about twenty-five millions, and her commerce to nearly fifty millions of dollars. Her steamboat tonnage is now larger than that of any city west of the mountains, and her manufacturing interests are very great, and increasing daily.

The business done by one of the private banking houses in that city amounted to not less than ten millions of dollars in the year 1850, as we learn from the St. Louis Intelligencer.

But when we look at St. Louis, as the eastern terminus of the Pacific railroad, it gives us a more adequate idea of her importance; and when that magnificent work shall have been completed—when the commerce of the Pacific shall pour into her storehouses—there is no reason of which we can conceive, why she should not become the great commercial metropolis of the west, rivalling even New York. As the tide of population sets westward, it will at length place her in the very centre of this vast republic, and her commerce extending north, south, east and west, will enable her to assume that supremacy to which her energy and perseverance in her infancy have given her so just a claim. We regard her future success as depending, in a great degree, on the progress of the Pacific railroad. That road is a part of the great highway to the golden shores of the Pacific; and just as surely as a mighty river deposits at its mouth the alluvion collected in its thousand miles of progress, just so surely will wealth and prosperity flow into the city of St. Louis through this channel. Her commerce, the vital element of cities and nations, will experience a steady and rapid increase, and she will control to a great degree the destinies of the whole surrounding country. This is not a merely imaginative sketch; it is founded upon the experience of the past. History shows us how cities rise, and why they decline; and not even

Rome, long the mistress of the world, possessed at such an early period after its settlement, so many elements of prosperity and rising greatness as are now combined in the city of St. Louis.

**Ohio.**

**Pittsburgh and Cincinnati Railroad.**—This enterprise appears to be in a fair way of early completion. Although it has only been before the public a few months, we learn that stock to the amount of \$600,000 has already been subscribed, and 30 miles of the road have been put under contract.—This road commences at or near Loudonville, Ohio, at the extreme southern bend of the Ohio and Pennsylvania railroad, and terminates at Springfield, where it connects with two first class railroads to Cincinnati. It passes through Mt. Vernon, Delaware, and Marysville, all county seats of rich and flourishing counties. It will be about 110 miles long, and at Mt. Vernon will cross the railroad line commencing at Sandusky, on Lake Erie, and running through Mansfield and Mt. Vernon, to Newark, where it intersects the Columbus and Zanesville line, thus giving railroad connections with those places. At Delaware it will cross the Cleveland and Columbus line.

The road will pass through nearly, if not quite, the geographical centre of Ohio, and through the fairest and richest portions of the State.

The contract above alluded to was made with Mr. DeGraff, who will furnish the first 30 miles with the necessary side tracks, extending from Springfield to Marysville, the central point in Union county. The road is to be delivered to the directors, ready for the iron, by August, 1852. The engineers are locating the remainder of the line, and it will doubtless be put under contract this coming fall or winter, and the whole line be prepared for the rails by the summer of 1853. It may be regarded as almost certain that the line will be completed within two years.

**Important Railroad Movement in Kentucky**

The city of Louisville has just voted the sum of \$1,000,000 to aid the construction of the Louisville and Nashville railroad, and \$200,000 to the Jeffersonville railroad, in Indiana. The latter is far advanced toward completion. The above vote we presume secures an immediate commencement of work upon the former, and the amount granted will, with the aid that can be relied upon from counties along the route, furnish ample means for the work. The length of this road will be not far from 180 miles, and cannot fail to be one of the most important roads in the country in every respect. Nashville will in a very short time be connected by railroad with Charleston and Savannah, and at no distant day with Mobile and New Orleans. It will be the great converging point for the lines from all the above cities. These lines, the Louisville and Nashville will carry forward to the Ohio river. Louisville will shortly be connected by railroad with the north and east, and the link between herself and Nashville will be the only one wanting, to form a continuous line of railroad from the northern Atlantic cities and the lakes on the one hand, and the southern Atlantic cities and the Gulf of Mexico on the other. This fact at once discloses the importance of the Louisville and Nashville railroad.

Reconnoissances of the route were recently made by L. L. Robinson, Esq., engineer to the company, which was found in the main to be very favorable. We understand that working surveys are to be immediately commenced under charge of the same



gentleman, who has thoroughly identified himself with, and has contributed no inconsiderable impetus to the new movement in favor of railroads, which has now taken such strong hold upon the popular mind of Kentucky.

#### Indiana.

**Indianapolis and Bellefontaine Railroad.**—This road is 83 miles in length, extending from Indianapolis to Union, at the Ohio line: 76 miles are straight lines; no curve of less radius than 5,730 feet; the maximum grade is 30 feet to the mile; and the cost of construction, up to the rolling power, with a T rail of 60 lbs. to the yard, an oak continuous superstructure, and a gravel ballast, will not exceed \$10,000 to the mile, as fully tested by the completion of that part of the road now in use. Thirty-six miles of the road, from Indianapolis to Anderson, is run with daily trains, carrying the mail. Eighteen miles, from Anderson to Muncie, are now being laid with the heavy rail, to be completed the coming fall, and the balance of the line is progressing rapidly with the graduation. The iron is procured for the whole road, with the exception of 25 miles; and the company are confident of having the whole line in use by the autumn of next year. This link in the great chain, as we have often said, must be one of the best, and most productive. Its local business must be heavy, while its through business will ultimately be immense. Connecting at Indianapolis with all the railroads radiating from that point, and at the Ohio line with the Sandusky, Cleveland, Pittsburg, Columbus and Dayton lines, it will possess great advantages of location for through travel and business; and considering its low grades, easy curves, and long straight lines, it may be brought up to almost any rate of speed; while its light cost of construction must give it high rates of dividends, when it shall be completed and its connections formed.

#### L. Myers' Patent Car.

A trial has been made of this revolving car on the Reading railroad, and it is stated that it has met the approbation of John Tucker, Esq., president of that company. It is intended to carry coal, grain, bacon, lime and similar articles.

This car consists of two wrought iron cylinders of sufficient length to suit the track, with the fellow or rim of a railroad wheel slipped over each end, and substantially rivetted to it. In the centre of each cylinder is placed a partition, the whole length and depth of the same. The door extends lengthwise the cylinder between the wheels, and is in four equal parts, hinged in the usual manner, and is secured by an iron rod, passing through the wheels and over the same. The contents revolve with the cylinder, and their abrasion is prevented by the centrifugal force produced when the cars are in rapid motion; and the partition placed in the cylinder prevents the same during the necessary slow motions on the road.

The great superiority claimed for these cars consists in the saving of friction, as the whole weight of the car and contents is directly on the road, thereby dispensing with axletrees, springs and patent boxes, and consequently lessening the liability to accident occasioned by their breaking. It is said that the large wheels necessary on cars of this construction enable them to run much easier and lighter, and with less injury to the road, than those now in use.

The whole weight being directly on, and in such close proximity to the road, the liability to run off the track is greatly diminished.

The facility for loading these cars is said to be equally as good as those now in use, simply by placing in or on the face of the railroad track, at the point of receiving freight, four friction rollers for each cylinder to be run on, in order that should the door be down when it should be up to receive freight, it may be very readily brought in proper position, by turning the cylinder, and the facility to do so, is in proportion to the diameter of the friction rollers, and which are adjusted in some respects as the grindstone is most usually in machine shops.

#### Kentucky.

**Covington and Lexington Railroad.**—The following is the authorized statement by its President, John S. Morgan, Esq., of the estimated cost of the road, together with the resources of the company:

For grading, bridging, abutments and superstructure to Paris.....	\$790,742
Right of way and contingencies .....	100,000
	\$890,742
Iron and laying track, \$7,000 per mile, to Paris, 78 miles.	546,000
	\$1,436,742

#### RESOURCES.

Individual subscriptions, Covington and Bourbon county subscriptions and Cincinnati Bonds.....	\$925,000
Individual subscriptions in Cincinnati, say.....	80,000
Covington authorized to subscribe additional.....	200,000
	\$1,205,000

Deficiency from Covington to Paris—all under contract but 12 sections...	\$231,742
Cost of road from Paris to Lexington, 19½ miles, say \$18,000 per mile.....	351,000
If the contractors take the same per cent in grading and bridges, in this part of the road that has been taken by contractors between Covington and Paris, it will amount to, say.....	48,000
If the county of Fayette vote to give us her bonds for \$200,000.....	248,000
Deficient for this part of the road.....	103,000

This added to the deficiency between Covington and Paris, will make \$334,742 for the whole line—(cost of depots and machinery for the road not included.)

But if the Maysville and Lexington railroad company join the Covington company in constructing the road between Paris and Lexington, and it should be determined to construct a double track way, the cost of which we suppose will be \$26,000 per mile, \$507,000, each company to pay one-half \$253,500, which would leave a deficiency on this part of the line, to be provided for by our company (after dividing the \$48,000 to be taken by the contractors between the two companies) of \$29,000.

This amount, added to the deficiency between Covington and Paris, would leave \$260,742 on the whole line; that is if the two companies join. If not, the deficiency would be \$334,742.

#### New York.

The *Watertown Journal* of August 6th, contains the proceedings of a meeting held in that village, to promote the construction of a railway to Potsdam, in St. Lawrence Co. The delegates from St. Lawrence all united in the statement that the Ogdensburg and Champlain railway was of little use to its inhabitants, in consequence of its running too near the north line of the county; being 14 miles from Canton and 5 from Potsdam. The cost of the proposed road is estimated at \$14,000 per mile, which is the cost of the Rome and Watertown road. The road will be 68 miles long, passing through many flourishing villages, and a country unsurpassed in

natural resources, and which will soon be developed, when made accessible and brought in communication with a market; it will open to a market the largest forest of valuable (mostly pine) timber in the state, and which of itself will afford a very large source of revenue.

#### Baltimore and Ohio Railroad.

The following is a list of Engineers, assistants, etc., of the Baltimore and Ohio railroad company, who have charge of the first and second divisions of the road beyond Cumberland, viz. :—

William H. Small, Division Engineer.	
George Hoffman,	
Walter C. Smith,	
W. G. Atkinson,	
Henry Blackstone,	Resident Engineers.
Gilbert H. Bryson,	
Samuel T. Shipley,	
R. P. Hazlehurst,	
William Brace,	Rodmen.
Randolph Boyd,	
I. M. St. John,	
Wm. D. Burton, Sup't of Water Station.	
T. Freibus, Sup't Cumberland & Savage bridges.	
A. C. Cochran, Sup't 21st section bridge.	
Roseby Carr, superintendant of laying rails.	

#### Pennsylvania.

**Cleveland and Pittsburgh Railroad.**—A meeting of the citizens of Pittsburgh was held recently, for the purpose of extending the Cleveland railroad from Wellsville to Beaver. Gen. J. R. Moorehead presided, and James Christy, Esq., was chosen Secretary. The meeting was addressed by Cyrus Prentiss, Esq., the President of the Cleveland and Pittsburgh railroad, who made a statement of the operations of the company. He said they had now some 62 or 63 miles of track laid, and were laying it at the rate of half a mile per day. They expected to arrive at the mouth of Hahn's run, near Rochester, in the early part of August, and thought they would be able to reach the river by the first of November. The company had had thirty-eight miles of railroad, between Cleveland and Ravenna, in operation for some time, the business on which was very gratifying and encouraging. When the road was first opened, the cars carried from one hundred and twenty-five to one hundred and thirty passengers per diem. The business steadily increased from one hundred and fifty to two hundred a day. Four hundred passengers are now carried over it every day. The gross number, for the first one hundred and four days they had been in operation, exceeded 35,000. The net receipts, after the payment of the expenses, was \$28,000, which would pay upon the cost of the road from Cleveland to Ravenna, ten per cent. dividend.

He said, however, that the company had expended the greater portion of their funds, and must rely on Pittsburgh to furnish the principal portion of the road between Wellsville and Beaver. The work would be put under contract immediately and completed at an early day, provided they received subscriptions to the amount of \$200,000 from the citizens of Pittsburgh. The entire cost of the road from Cleveland to Wellsville, including equipment, would be about \$2,000,000, or \$20,000 a mile.

The meeting was also addressed by other gentlemen, who set forth the advantages to be derived by Pittsburgh from the proposed extension, and made earnest appeals for the co-operation of her citizens, with the company, by furnishing the necessary subscription.

A committee was appointed to solicit subscriptions to the stock of the company, for the purpose of enabling them to effect this extension, consisting of

the following gentlemen:—A. W. Loomis, Thos. Bakewell, Wm. Bagaley, W. W. Wallace, Wm. McCutcheon, and Charles Knap.

From the unanimity of feeling, and energetic spirit manifested at this meeting, it seems probable that the proposed enterprise will be pushed forward to a speedy completion.

#### Pennsylvania.

**Lebanon Valley Railroad.**—The line of this road as surveyed is fifty-six and a quarter miles in length. Commencing nearly opposite the freight depot of the Philadelphia and Reading railroad at Reading, it crosses the Schuylkill below the mouth of Tulpehocken, seventy-one feet above water, by a bridge spanning both the river and the Schuylkill and Union Canals; thence westward it ascends at the rate of 26.4 feet per mile, with intermediate levels for five miles, passing near the village of Sinking Springs. After leaving this point, the road passes near Warnersville, Reading Furnace, Womelsdorf and Newmanstown, through the northern part of Lebanon, to Millerstown, where the Quittapahilla is crossed, and a direction taken towards the Swatara bridge, passing about midway between Palmyra and Campbellstown. The Swatara river is crossed seventy-seven feet above water by a bridge spanning both it and the Union canal near the centre of the great bend; and in two miles and a half further, the summit dividing the Swatara and Susquehanna is passed, and the table lands of the latter river reached, leaving Middletown, one of the chief lumber marts of that region, three miles to the left. Thence the descent commences at the rate of twenty-one feet per mile, and continues with intermediate levels for seven miles and a quarter to the western terminus near Harrisburg.

The estimate of cost are as follows:

For rail track per mile.....	\$8,080 08
For graduation, masonry and bridging per mile.....	11,203 33
	\$19,282 41
Or for 56½ miles.....	\$1,084,635 56
Six miles of side track.....	48,480 48
Switches, crossings, &c.....	6,500 00
Contingencies, engineering, &c.....	114,163 63
	\$1,253,779 67
Total cost of road.....	\$1,395,810 92
Land damages at \$1,325 per mile...	74,531 25
Three small engine houses, turning platforms, &c.....	30,000 00
Five water stations and other necessary station buildings.....	25,000 00
Magnetic telegraph line and instruments.....	12,500 00

Total expenditure required.....\$1,395,810 92

With regard to the prospects for trade which this road possesses, we cannot do better than to quote a few paragraphs from the report of the chief engineer. He says:—

"It would be difficult to find in Pennsylvania, an unimproved route promising greater advantages for trade than the Lebanon Valley railroad; the fertile and thickly settled country traversed by it, the number of towns within the bounds of its tribute, and the advantages of Lebanon county for the manufacture of iron, must always secure for it a large amount of local trade.

In 1839 the tonnage of the Union canal was 117,680, exclusive of coal from Pine Grove; about this time the Tide-Water canal was opened, and it became reduced in 1842 to 50,606 tons, the through trade having become divided. Since then it has been increasing, and reached in 1849, 76,166 tons, exclusive of coal as above.—Of this, 21,321 tons was lumber from Middletown, and the balance of 54,844 may be considered as very near the local trade furnished by Lebanon Valley to the Union canal; of this 10,003 tons was grain and flour;

30,120 tons was due to iron manufactories, and 23,721 tons promiscuous freight.

The Philadelphia and Columbia railroad gathered in an equal distance, exclusive of the city of Lancaster, through a less generally fertile and thickly settled district, 49,188 tons of local freight in the year 1849.—New enterprises will be commenced, and old ones revived on the opening of this road, tending greatly to swell its local business.

Cornwall Ore Banks, six mile south of Lebanon, are the richest and most valuable in Pennsylvania. The coal of Pine Grove is now reached by Union canal in a distance of thirty miles from Lebanon; Fishing Creek Coal Lands are some five miles nearer, and the Semi-Bituminous coal of Stony creek, is not farther off.

So situated, I do not see what is to prevent Lebanon county from becoming one of the most extensive iron manufacturing districts in the State. Three Anthracite, and seven Charcoal furnaces are now supplied from Cornwall Ore Banks, capable, when in full operation, of producing 25,000 tons of pig metal yearly, and last season 30,000 tons of Pine Grove coal were delivered at Lebanon, chiefly for the purpose of smelting iron. \* \*

Some idea may be formed of the advantage of location which will be possessed by your road, compared with the route by Lancaster, when I state that if the cost of eastward transportation on the Philadelphia and Reading road is represented by 1, that on the Lebanon Valley will be 2, and on the route by Lancaster 3; or otherwise stated, if an engine of any given power will move a certain load eastward over the Reading road two engines of the same power will be required to move a similar load over the Lebanon Valley, and three over the Lancaster; and westward, one and a-half engine on the Reading, will be equal to two on the Lebanon Valley, and three on the Lancaster routes. These numbers are sufficiently accurate to give a general view of the advantages you may expect to possess, on account of your grades and curvatures, for heavy transportation. The time which will be saved in the passenger traffic on your route, is not less decided in its character. Six hours are now consumed by the passenger trains from Philadelphia to Harrisburg, whilst the running time on the Lebanon Valley route, should not exceed three and a-half hours between the same points. It is not likely the time of the Lancaster route will be reduced below five hours; it would be equally easy for you to reduce below three and a half as they below five; as you are at all times likely to have a clear advantage of one and a half hours in the passenger traffic, which is sufficient to secure the preference to your route. \* \* \*

In estimating the local trade, it must be remembered that your road will rest with one end at the city of Reading, now numbering nearly 16,000 inhabitants; and the other at the seat of government of Pennsylvania with 8,000 inhabitants, both of which places are rapidly growing in manufacturing importance, and that it will have a natural extension along the fertile valley traversed by it of 74 miles, the trade from which may also be considered as local, in contra-distinction to the through trade from the west.

To keep within such reasonable limits as will be reached by the results, I shall estimate the profit on each passenger carried 56 miles, at 75 cents, and on each ton of freight carried the same distance, 50 cents, from which we derive the following:—

Local trade of Lebanon and Cumberland Valleys.	
30,000 passengers per annum, at...75c	\$22,500 00
80,000 tons of freight, do at...50c	40,000 00
From the Pennsylvania Railroad and other sources.	
30,000 passengers annually, at...75c	22,500 00
30,000 tons freight do at...50c	15,000 00

Total annual freight.....\$100,000 00

Or upwards of seven per cent per annum on the requisite investment. The figures fall below what may reasonably be expected from experience on other roads, both in quantity of trade, and the income to be derived from it, and must be greatly exceeded in a few years from the opening, and on the competition of the works now in progress."

**Central Railroad.**—Another section of this, extending to Lockport, has been completed and open-

ed for travel, making three hundred continuous miles of railway from Philadelphia, and leaving but eighty miles of canal on the route, to the Western terminus on the Ohio river. We learn further, that on or about the 1st of January, proximo, the road will be in use to a point near Youngstown, on the Southern turnpike, which is within a distance of forty miles of Pittsburgh.

#### Maine.

**Great Falls and South Berwick Branch Railroad.**

—The contract for building this road, a length of six miles, has been taken by J. G. Myers. The company was organized on the 9th inst. by the choice of the following officers:—

F. O. J. Smith, President; H. H. Hobbs, Clerk. Directors—F. O. J. Smith of Portland; John A. Burleigh, Great Falls; John T. Paine, Melrose; Nathaniel Wells, Great Falls; — Hackett, Portsmouth; Ichabod G. Jordan, Great Falls; — Rollins, do.

**York and Cumberland Railroad.**—At the late annual meeting of the directors of this company, the following gentlemen were chosen directors for the current year, viz:—

Rufus McIntyre, Josiah Pierce, George Warren, J. A. Poor, N. L. Woodbury, T. Farrar, F. A. Wood, A. G. Fitch, G. W. Came, I. A. Burleigh, D. Appleton.

At a subsequent meeting of the directors, John A. Poor of Portland, was chosen President, and D. C. Emery, Treasurer.

**Slow Railroads.**—One not to be beaten.—A correspondent of the Boston Times, speaking of the Pontiac (Michigan) railroad, remarks:—"John Summers once asserted on the floor of the Senate that the Pontiac cars 'never were known to go fast enough to break the Sabbath,' and that 'if they should travel to all eternity in a straight line, at any velocity they have ever been known to attain, they could not get so far but what they could get back the next day.'"

#### Massachusetts.

**The Georgetown Railroad.**—The following gentlemen have been chosen directors:—J. Coleman, of Newburyport; George Tenny, of Georgetown; Asa Pingree, of Topsfield; Thomas Perley, of Boxford; Joseph Black, Daniel Richards, and Dr. Osborne, of Danvers; W. D. Northend, of Salem, and Mr. Crane, of Boston. Asa Pingree, of Topsfield, was chosen president. This road, when made, will open a communication over a route west of the Eastern railroad from Newburyport to Boston, through Georgetown, Topsfield, North, and South Danvers, and over the South Reading branch to the Boston and Maine road.

#### Kentucky.

**Maysville and Lexington Railroad.**—We understand the difficulties pending in relation to the issue of the bonds of the county of Fayette to the Maysville and Lexington railroad company, have been satisfactorily adjusted and the order was made by the county court, on yesterday, without opposition for their issue according to the terms of subscription. The basis of the settlement, we learn, is substantially the resolutions heretofore published, and offered at the public meeting of the county, by M. C. Johnson, Esq., with an agreement to refer all matters of difference which may arise as to a grade, &c., to the arbitration of two competent engineers, one to be chosen by each company and their umpire. We congratulate our county upon this most auspicious termination of these difficulties which unfortunately have arisen among the friends of railroad enterprises, and hope we may now all actively and earnestly go to work to aid in every possible way in the completion of these enterprises. The



interest of our county and city is vitally at stake, and we are greatly deceived if a new and hitherto unknown prosperity is not dawning upon us.—*Lexington Observer.*

#### Lafayette and Indianapolis Road.

Hon. A. S. White, President of this road, returned from New York yesterday morning. We are informed that the necessary locomotives, and other equipments have been provided for, and will be here with the iron in the course of one month. It is expected that a considerable portion of the iron will be laid down this fall.

Mr. White has made arrangements for three locomotives, with all the equipments necessary for thirty cars, which is thought sufficient for the present.

The enterprise will be carried forward now with all possible energy, every essential provision having been made for the completion of the road. The entire line is nearly in readiness to receive the iron, and the unfinished portion will be ready by the time the iron is received.—*Lafayette Journal.*

#### Massachusetts.

**Important Railroad Transfer.**—We understand that Edward Crane, Esq., who has, from the beginning of the building of the South Reading Branch railroad, held a controlling interest in its stock, has sold out that interest, and all his shares, to the President of the Eastern railroad, at the rate of \$115 per share; President Neal buying in the name of the latter corporation. The bargain was first offered to the President of the South Reading corporation, and, after some long consideration, not being taken up, it was closed with Mr. Neal. The transfer is likely to have considerable influence upon stocks of new roads, which were to cut off the travel upon the Eastern railroad.

#### Cincinnati and St. Louis Railroad.

This great project, which has been for a long time in abeyance, owing in part to the restrictive policy of the State of Illinois, is now to be commenced in a manner which gives every assurance of success. The whole length of line will be about 330 miles. The principal intermediate point is Vincennes, which is about midway between the two termini.

The whole cost of the road cannot be much less than \$7,000,000. We believe that something over \$2,000,000 in subscriptions have been obtained already. Although the amount required is very large, the road is a favorite project with the cities of Cincinnati and St. Louis. These can easily furnish the means. The intermediate country can contribute considerable, particularly in Indiana.

It will be seen by an advertisement in another column, that proposals are invited for the grading of 45 miles, commencing at Cincinnati. There will be a large amount of heavy work on this portion of the line, which presents an attractive field for *Contractors*. We learn, too, that some 50 miles of the line on the St. Louis division, will probably be put under contract at about the same time with the above.

#### Mobile and Ohio Railroad.

This enterprise seems to be making rapid headway in Mississippi. The various counties on the route in that State are now being canvassed, and most of them take the quota assigned to each. The county of Noxubee has subscribed \$360,000, and is expected to take \$40,000 more. The county of Kemper has taken \$160,000, and will carry her amount up to \$175,000. Lauderdale has taken \$100,000; Clarke about \$40,000; Oktibbehee, \$50,000, and Chicasa \$10,000. The sums contributed by a number of the above counties embrace only a portion of what is expected to be obtained from

them. Some of the leading counties have not acted in the matter of subscriptions. On the whole, the best feeling prevails upon the entire line of the work, and it is believed that the country traversed, can easily prepare the road bed for the iron.

#### Freights on Railroad Iron.

In an article in our paper of the 9th inst., upon the cost of transportation to the west, via the *Erie canal*, we stated that "the Dayton and Western company paid only \$4 50 for the transportation of their iron from New York to Dayton." We should have said to *Toledo*.

#### Pittsburgh and Steubenville Railroad.

The Pittsburgh and Steubenville railroad company, has been duly organized by the election of the Hon. Harmar Denny, as President, and the following gentlemen of Pittsburgh, as directors:—J. K. Moorhead, Joseph Pennock, Wm. M. Lyon, Thos. S. Clarke, Lewis Hutchinson, Henry Graff and Charles Naylor, of Pittsburgh.

#### Michigan Southern Railroad.

This road is now opened, in connection with the Northern Indiana road, to Bristol in Indiana, making a line of 137 miles from Lake Erie now in operation. It will be extended to South Bend, 23 miles further, within a few weeks, by the 10th September proximo. These roads will have 160 miles in operation from Lake Erie.

#### Sandusky.

The channel of this harbor has been dredged out the present season, so that there is now ten feet of water over the bar. The channel is 500 feet wide. The Sandusky Herald says that their port is now the best upon Lake Erie.

#### Providence and Worcester Railroad.

The receipts for passengers and freight over the Providence and Worcester railroad, for July, are \$3,000 more than they were for the corresponding month last year.

#### Resignation.

David A. Neal, Esq., of Salem, has tendered his resignation as President of the Eastern railroad corporation, and will start for England, on Wednesday of next week, on business connected with the Illinois Central railroad, of which he is one of the officers.

#### New Hampshire.

**Cocheco Railroad.**—This railroad, which connects with the Boston and Maine railroad at Dover, N.H., from thence running to Alton Bay, is to be opened for public travel on Monday next. On Saturday, August 30th, the stockholders residing in Dover and vicinity, will pass over the road, and on Monday, September 1st, the directors, Boston stockholders and invited guests, will formally dedicate this delightful route to the White Mountains by an excursion to Alton Bay, and thence by the new and elegant steamer Dover to Wolfboro' Centre Harbor, and other points on Lake Winnipissigee.—*Boston Courier.*

#### Massachusetts.

**Essex Railroad.**—The following gentlemen have been elected directors of this road for the present year:—George Hodges, David Pingree, Nathaniel B. Mansfield, Nathaniel Weston, Eben. Sutton, Samuel A. Safford, John B. Silsbee.

**Saugus Branch Railroad.**—The following are the officers:—President, Mark Healy of Lynn. Treasurer, Edward Crane, of Boston. Directors, Chas. Porter, George W. Raddin, George Hood, of Lynn; George Pearson, B. F. Newhall, of Saugus; Joshua Webster, — Wise, of Malden; Edward Crane, of Boston. The "southern survey" has been deci-

ded upon as the route of the track, and operations for building the road are to be commenced immediately. The depot in Lynn will probably be near the Lynn Hotel.

**Grand Junction Railroad.**—The laying of the track from the Fitchburg road to the Grand Depot grounds and wharves at East Boston has been completed, and the road will probably be opened for business next month, the first train passing over it on occasion of the great celebration.

#### To Contractors.

*Cincinnati and St. Louis Railroad.*

**SEALED** proposals will be received at the Office of the Company till Wednesday, the 1st day of October next, for grubbing, grading and bridging forty-five miles of the Ohio and Mississippi railroad, from Mill Creek, in Cincinnati, to a point twenty miles west of the city of Aurora, Ind.

Plans, specifications, &c., may be examined by Contractors, at the Office of the Company, in Cincinnati, from the 20th of September, to the day of letting.

By order of the Board,

ABNER T. ELLIS, Pres't.

Cincinnati, August 16th, 1851.

#### To Chief Engineers, Directors of Railroads, Canals, etc.

A Civil Engineer and Surveyor, who has been professionally engaged under the British Government, East India Company, etc., is desirous of obtaining employment as an Assistant. No objection to the South or West. Address for one month to C. E. & S., American Railroad Journal office. August 16, 1851.

#### Railroad Iron.

**THE** Undersigned offer for sale 2,000 tons of Railroad Iron, to arrive at New York in the month of September next. It is of a most approved pattern and quality, and weighs about fifty-five pounds to the yard.

CHOUTEAU, MERLE & SANDFORD.

No. 51, New Street.

New York, August 9.

#### TO CONTRACTORS.

*Belpre and Cincinnati Railroad.*

Engineer's Office, }  
Chillicothe, July 30, 1851. }

**SEALED PROPOSALS** will be received at the Engineer's Office, in Chillicothe, until the 18th day of September, 1851, for the Graduation, Masonry and Bridging of 42 miles more of their road;—25 miles being between Greenfield and Blanchester, and 17 miles east of the 11 miles now under contract east of Chillicothe.

Plans, Profiles and Specifications will be ready for examination, at the Engineer's Office, on and after the 10th day of August. Blank Proposals will be furnished to Contractors, and all necessary information given upon the line or at the office concerning the quality and quantity of work.

W. P. CUTLER, Pre'st.

A. KENNEDY, Chief Engineer.

#### Virginia Locomotive and Car Works.

Wolfe Street and River Potomac, Alexandria, Va.  
SMITH & PERKINS, Proprietors.

#### MANUFACTURE

Locomotive Engines and Tenders.  
Marine and Stationary Engines and Boilers.  
Chilled Car Wheels and Axles.  
Patent Chilled and Wrought Slip-tire.  
Machinery and Castings generally.

The undersigned having erected very extensive shops, and procured the most modern machinery and tools, are prepared to execute orders for Locomotive Engines, Cars, and Machinery of all kinds, with despatch, and on the most favorable terms.

R. C. SMITH,

Late of the Alexandria Iron Works.

THATCHER PERKINS,

Late Master of Machinery on the Balt. & O. R.R.  
July 22, 1851.

**Bridges & Brother,**  
DEALERS IN  
RAILROAD AND CAR FINDINGS,  
64 Courtlandt street, New York.

Having established a general Depot for the sale of articles used in the construction of Railroads, Locomotive Engines and Railroad Cars, we would invite your attention to our establishment. We have already in store a good assortment of CAR FINDINGS and other articles used in the trade, and feel justified in saying, that should you desire anything in our line, we can supply on terms perfectly satisfactory, and in the event of your desiring to order, you may feel assured that your terms will be as good as though you were here to make your own purchases.

Among our goods may be found Railroad Car Wheels, Axles, Jaws and Boxes, Nuts and Washers, Bolts, Brass Seat Hooks and Rivets, Window and Blind Springs, Lifters and Catchers, Door Locks, Knobs and Butts, Ventilators and Rings, Car Lamps, Coach and Wood Screws, Jack and Bed Screws and Babbitt's Metal; also Plushes, Damask, Enameled Head Linings, Cotton Duck for Top Covering in width sufficient without seams, Curled Hair and all other articles appertaining to cars.

Also a new and valuable CAR DOOR LOCK, well adapted to the Sliding Door. This is decidedly the best yet introduced.

LOCOMOTIVE ENGINE LANTERNS, the best article made in the country. Whistles, Gauge and Oil Cocks, Hemp Packing, American, Russian and Italian. We are also agents for Lightner's Patent Journal Box for Car Axles, that invaluable invention, for the economical use and preservation of Car Journals.

Coach VARNISH and Japan of the best quality

We would also offer our services for the purchase as well as for the sale of goods on commission.—Both members of our firm have had the experience of many years in the manufacture of Railroad Cars, and our Senior was a member of the well known house of DAVENPORT & BRIDGES, Car Manufacturers, Cambridgeport, Mass. With our knowledge of matters pertaining to Railroads, we feel quite confident in giving satisfaction to both buyer and seller, and hope that through assiduity and attention to any business entrusted to our care we shall merit a continuance of confidence and patronage.

BRIDGES & BROTHER.

July 22, 1851.

**Lightner's Patent Axle Boxes.**

THE Undersigned are Agents for, and offer for sale, *Lightner's Patent Axle Boxes*, for Railroad Cars and Tenders, which have, by thorough experience, been demonstrated to be one of the most valuable improvements ever introduced in Locomotion. The saving effected in oil alone, will in a few months pay the first cost of these boxes, independent of other advantages. They are now in use upon the following, among other roads, viz:

Boston and Worcester, Boston and Providence, Boston and Fitchburg, Nashua and Lowell, Providence and Worcester, Northern, N.H., Cheshire, Manchester and Lawrence, Concord, N.H., Concord and Claremont, Ogdensburg, (Northern, N.Y.) Stonington, New London Willimantic and Palmer, New Jersey Central, New Hampshire Central, Worcester and Nashua, Fitchburg and Worcester, Connecticut and Passumpsic, Lowell and Lawrence, Salem and Lowell, Wilton Branch, Newburyport.

Below will be found the certificates of a number of gentlemen, whose opinions will be good authority in every part of the country.

Office Boston and Prov. R. R.,  
Boston, Dec. 28, 1849.

Mr. JOHN LIGHTNER,

Sir,—It affords me pleasure to say, that after two years' trial of your boxes, I am fully and entirely satisfied of their superiority over any other pattern we have used. This superiority consists in economy of oil and freedom from "heating." I have tried every pattern of box in use, of any note, and do not hesitate to say, that you have devised one which in every respect combines greater advantages than any other within my knowledge; these advantages are so manifest, that I am fitting up all

our cars with your boxes, as fast as practicable.

Annexed, is a statement of an experiment with your boxes, the result of which may be of use to your interests.

Ten passenger cars, running 72 wheels, fitted up with Lightner's boxes used 41½ pints of Patent Oil, at 50 cts. per gallon, ran 43,099 miles, equal to 5.18 pints per wheel for 43,099 miles. Speed, 30 to 40 miles per hour.

Very respectfully yours,

W. RAYMOND LEE, Supt.

I have examined the above statement of Mr. Lee, and fully concur with him in his opinion of the superiority of Lightner's box.

GEORGE S. GRIGGS,  
Supt. Machine Shop B. & P. R. R.

Boston, July 26, 1849.

This is to certify that J. Lightner's axle boxes for railroad cars and locomotive tenders, have been in use on the Boston and Worcester railroad one year, and I unhesitatingly pronounce it, in my opinion, the best and most economical one in use, requiring less oil, of easy application, not susceptible of derangement, as in most kinds in use. When requiring repairs or renewal, the same may be done in one-fourth of the time usually occupied for that purpose. The box requires oiling not oftener than once a month—is kept quite free from dust, and consequently wears much longer than those generally in use.

D. N. PICKERING,  
Supt. Motive Power, B. & W. R. R.

Office of Boston Locomotive Works,  
December 12th, 1849.

The Boston Locomotive Company have been using J. Lightner's patent axle boxes under the tenders of their engines for several months, and find them more highly spoken of by the railroad companies that have used them in regard to economy in the use of oil, their durability and their ease of adjustment, than any other boxes which they have used. We therefore do not hesitate to recommend them to all railroad companies.

DANIEL F. CHILD,  
Treas. Boston Locomotive Works.

Taunton Locomotive Works,  
Taunton, July 7, 1849.

Mr. H. F. ALEXANDER,

Dear Sir,—Your favor of yesterday came to hand in which you ask what success we have met with, in using Mr. Lightner's patent box for cars, engines, &c.

We have put it in use on the Boston and Providence railroad, New Bedford and Taunton Branch railroad, Central railroad, N. J., Norfolk County, Rutland and Burlington, and as yet we have not had one complaint from them; and from what we have used of it, and witnessed, we do not hesitate to say that it is superior to anything in use for that purpose. It is simple in its construction, and easy of access, and the reservoir is held close to the shaft, and the oil and journal is perfectly secure from dust; they will run from four to six weeks without replenishing the oil. The brass in the box is changed very much easier than by any other plan that we have seen.

Very resp. yours,

W. W. FAIRBANKS, Agent.

Office Providence & Worcester R. R. Co.,  
Providence, Dec. 17th, 1850.

H. F. ALEXANDER, Esq.,

Sir,—The "Lightner patent boxes" for cars and locomotives have been in use under a portion of the passenger cars and engines of this company for upwards of two years, and have given very great satisfaction.

Though combining many excellent qualities, their great superiority consists in the economy of oil.

The result of experiments upon this road shows the consumption of oil by the use of this box, to be not more than one sixth part the quantity consumed by the use of the common box.

With the common box, eight passenger cars, 64 wheels, running 90 miles per day, consumed in 12 months 520 gallons of oil, being an average of 8½ gallon per wheel per annum.

With the Lightner box the same cars running the same number of miles per day, during the same space of time consumed 73½ gallons of oil, being an average of 1½ gallon per wheel per annum.

So manifest are its advantages over any other box used by this company, it is intended to place it under all our cars as soon as practicable.

Besides the saving of oil, as they afford complete security from dust, we think them more durable than any other box in use.

Another advantage resulting from the use of this box is, cars run more easier than with the common box. The saving in fuel which it would effect, would of itself, we think be a sufficient inducement to use this box in preference to any other known to us.

Very respectfully,

ISAAC H. SOUTHWICK, Supt.  
JOHN B. WINSLOW,  
Supt. Machine Shop, P. & W. R. R.

Cambridgeport, April 5th, 1851.

H. F. ALEXANDER, Esq.

Sir,—This may certify that I have been engaged in the manufacture of railway cars since 1834, and have built for the different railroad companies cars of all descriptions to the amount of three millions of dollars, and have used on the above cars all kinds of journal boxes, and find that none give better satisfaction than the "Lightner patent box," both on account of the saving of oil and the arrangement for taking out and re-placing the composition by means of the sliding key, and other conveniences which no other box possesses.

Yours respectfully,

CHARLES DAVENPORT.

Worcester, March 17th, 1851.

H. F. ALEXANDER, Esq.

Dear Sir,—This is to certify that I have been for some years past engaged in building cars, and that I have tried most, if not all of the patent boxes, and have found Lightner's patent superior to all others as far as the saving of oil is concerned, also the ease with which they are fitted and exchanged in case they get out of order.

For the last three years, I have put them under all of the cars I have built, and in every instance they have given the most entire satisfaction.

Yours truly,

OSGOOD BRADLEY.

Office Union Works, So. Boston,  
May 23d, 1851.

This certifies that I have applied Mr. J. Lightner's patent axle boxes to my locomotives and tenders for the past two years. I consider them superior to all others,—economical in their use, and possessing many important advantages not found in any other boxes.

SETH WILMARTH.

Office 15, R. R. Exchange, Boston,  
June 1, 1851.

This is to certify, that we have known the success of Lightner's patent journal boxes upon various roads in New England the past three years, and have been led to examine their peculiar construction.—We are well satisfied of their merits, and have adopted them upon our small gravel cars, and take pleasure, as we ever have done, in recommending their use upon all roads where we are employed in the construction.

GILMORE & CARPENTER,  
Contractors.

Amoskeag Manufacturing Co. Machine Shop,  
Manchester, May 31, 1851.

H. F. ALEXANDER, Esq.

Dear Sir,—We are using the Lightner box on all the engines and tenders we build, and we are satisfied that it is the best box in use, and recommend the same to all those who purchase engines at our works.

Yours respectfully,

O. W. BAYLEY, Agt.

This is to certify that the Fitchburg railroad company having become satisfied of the superiority of J. Lightner's patent Axle Boxes for Railway Cars and Locomotive Tenders adopted the same,



and are bringing them into general use upon their road.

One year's experience with the above improvement, has fully convinced me that there has never been anything offered to the public for that purpose which possess such intrinsic value; in fact, this is an improvement which seems to overcome all the difficulties found in all the various kinds now in use. It possesses very many advantages over all others: Some of which are [first] the first cost is much less than that of most boxes in use. [Secondly] 75 per cent is saved in oil; one gill applied to each Journal once a month, or one quart to an eight wheel car, is all these boxes require per month [Thirdly] no dust can gain access to the Journal, which is constantly lubricated with clean oil; hence the saving in repairs of Journals and composition bearings, is a matter of importance. [Fourthly.] its construction is truly simple—not complicated, having nothing liable to become loose by constant and severe service. [Fifthly] for convenience there is nothing which approaches this improvement.—The composition bearings may be removed from the Journals of an eight wheel car, by one man, and returned, or duplicates, in twenty minutes, while under the car: the same would require two men, at least half a day with other boxes in use.—The trucks and wheels using these boxes, are free from oil and dirt, usually seen upon all railroad cars, at great expense to the corporation.

NATH'L JACKSON.

Supt. Car Building and Repairs, F.R.R. Co.

Boston, March 9, 1849.

I hereby certify, that I have examined a box for Car Journals, invented by Mr. Lightner of Roxbury, Mass, and I have thought so well of it that I have adopted it on our railroad, I have known of its success on other roads.

S M. FELTON,

Supt. F. R. R.

Office of the Central R. R., N. J., }  
Elizabethtown, May 1849. }

H. F. ALEXANDER, Esq.,

Dear Sir:—Your favor, [wishing to be informed how we liked Lightner's patent axle boxes for R.R. Journals,] has been duly received; in answer we would say, we have used the boxes on Locomotive tenders one year, more or less, and on our cars some six months. I consider them the best boxes in every respect, I have ever used, or even seen used on any other roads—for safety, durability and the economy pertaining to all the details connected with the boxes and Journals of R. R. Car wheels; and we shall adopt them upon this road.

Yours Respectfully,

JOHN O. STEARNS.

Supt. Central Railroad Co., N. J.

Manchester, N. H., Nov. }  
1st, 1850. }

H. F. Alexander, Sir,

I have used "Lightner's Boxes" under all the Cars of the Manchester and Lawrence railroad, and feel no hesitation in saying that I think them to be the best boxes now in use.

Yours, &c.,

THEODORE ATKINSON, Agent.

Cheshire R. R. Office, Keene, }  
March 5th, 1851. }

Mr. H. F. Alexander,

Sir,—Lightner's Patent Boxes have been used on the Cheshire R. R. about a year, and have given the highest degree of satisfaction.

All the Passenger Cars now in use, and a considerable number of Merchandise Cars are furnished with them, and they will take the place of the Common Boxes on all the cars as fast as circumstances will permit.

Very Resp't.

L. TILTON,

Supt. Cheshire R. R.

Boston and Worcester Railroad, }

Boston, April 1st, 1851. }

H. F. Alexander, Esq.,

Dear Sir,—Lightner's Patent oil saving box for railroad cars, has been adopted by this corporation; we are taking out the common and substituting the

Lightner's at the rate of fifty boxes per month; it will soon take the place of all others, as it is decidedly preferable to any heretofore used by this corporation.

G. TWITCHELL, Supt.

Statement of amount of oil used on 32 8-wheel freight cars, on the Boston and Providence Railroad (with Lightner's Boxes) from March 10, 1849, to February 27, 1851, and upon 12 8-wheeled passenger cars from September 8, 1849, to February 27, 1851.

FREIGHT CARS.			
Amount Oil.	No. months.	Amount Oil.	No. months.
1.—21 pts.	10	17.—23½ pts.	14
2.—19 " "	6	18.—23½ " "	11
3.—25 " "	13	19.—36 " "	21
4.—18 " "	7	20.—22 " "	10
5.—22 " "	12	21.—38½ " "	24
6.—24 " "	13	22.—29 " "	23
7.—20 " "	11	23.—35½ " "	23
8.—21 " "	11	24.—37 " "	23
9.—23½ " "	10	25.—51 " "	23
10.—21 " "	9	26.—31½ " "	24
11.—20 " "	9	27.—28½ " "	23
12.—21½ " "	11	28.—36 " "	23
13.—19 " "	8	29.—50½ " "	24
14.—25½ " "	17	30.—50 " "	23
15.—20½ " "	10	31.—41 " "	23
16.—31 " "	18	32.—39½ " "	23
Total,		925½ pts.	510

PASSENGER CARS.			
1.—19½ pts.	18	7.—30 pts.	18
2.—25½ " "	18	8.—25½ " "	18
3.—33 " "	16	9.—29 " "	18
4.—19 " "	15	10.—46½ " "	17
5.—15 " "	15	11.—9 " "	9
6.—22 " "	18	12.—65½ " "	17
Total,		340 pts.	197

Averaging 1 4-5 pints of oil for freight, and 1 7-10 for passenger cars per month only!

All orders and enquiries promptly attended to.

BRIDGES & BROTHER,

No. 64 Courtlandt st., New York.

July 25, 1851.

### To Boiler Makers, Engineers, etc., etc.

PATENT LAP-WELDED IRON TUBES,

Manufactured by the

BIRMINGHAM PATENT IRON TUBE CO.

UNDER

PROSSER'S PATENT,

from one and a quarter to eight inches in diameter.

These tubes are well known for their superiority over all other descriptions for Locomotive, Marine and other Steam Engine purposes, for which they are used very extensively in Great Britain and on the Continent of Europe.

For sale in quantities to suit purchasers, by

WILLIAM BIRD & CO.,

44 Wall st., New York.

July 26, 1851.

### To Railroad Companies.

THE undersigned has discovered and patented an imperishable, cheap, and sufficiently elastic substance, to be introduced between the sill and rail, so that the stone sill can be used in place of the wooden sill: entirely overcoming that rigidity where the rail is laid directly on stone. Address

J. B. GRAY, Philadelphia.

July 10, 1851.

### To Contractors.

Peru and Indianapolis Railroad.

PROPOSALS will be received at the office of the Peru and Indianapolis Railroad, in Noblesville, until the evening of the 13th of August next, for the Grading of the line of the above road from Noblesville to Peru, a distance of fifty miles. Also the masonry for Bridges over the Wabash, Big Pipe and White Rivers.

The proposals are to be addressed to W. J. HOLMAN, Esq., Chief Engineer, at the Company's Office, where plans and specifications of the work may be seen. Payments will be made monthly in cash, reserving 15 per cent. till the contracts are completed.

Indianapolis, July 12, 1851.

## European and North American Railway.

THE undersigned, the three persons first named in the first section of an act passed by the Legislature of Maine, and approved the twentieth day of August last past, entitled "An Act to incorporate the European and North American Railway Company," and being specially authorised therefor in and by said act, hereby give public notice that, for the purpose of receiving subscriptions to the stock of said company, as established by the act aforesaid, according to the provisions thereof, not exceeding forty thousand shares, books of subscription will be opened under the direction of the undersigned, according to the regulations prescribed, at the time and places following, viz:—On WEDNESDAY, the Twentieth day of August next,

At Calais, Maine, with Noah Smith, Jr., Esq.

Eastport, do. " Col. Bion Bradbury.  
Machias, do. " Walker & O'Brien,  
Ellsworth, do. " Seth Tisdale, Esq.  
Oldtown, do. " Geo. P. Sewall, Esq.  
Bangor, do. " Geo. W. Pickering, Esq.  
Orono, do. " Hon. Israel Washburn, Jr.  
Waterville, do. " Hon. Timothy Boutelle.  
Brunswick, do. " Prof. William Smyth.  
Augusta, do. " B. A. G. Fuller, Esq.  
Belfast, do. " John Y. McClintock, Esq.  
Portland, do. " John B. Brown, Esq.  
Portsmouth, N.H. Hon. I. Goodwin.  
Salem, Mass. Stephen A. Chase, Esq.  
Boston, do. " Francis Skinner & Co.  
Lowell, do. " John Wright, Esq.  
Worcester, do. " Charles Washburn, Esq.  
Providence, R.I. " Billings Brastow, Esq.  
Hartford, Conn. " Hon. C. F. Pond.  
New Haven, do. " Allen Prescott, Esq.  
New York, N.Y. " R. & G. L. Schuyler, No. 2 Hanover street.

Albany, do. " John V. L. Pruyn, Esq.  
Troy, do. " Hon. John D. Willard.  
Philadelphia, Pa. " Hon. Wm. C. Patterson.  
Montreal, Canada, " Hon. John Young.  
Quebec, do. " J. B. Forsyth, Esq.

Said books will remain open for ten successive days at the places and with the persons aforesaid.

Dated at Portland, this sixteenth day of June, A. D. 1851.

ELIJAH L. HAMLIN,  
ANSON G. CHANDLER,  
JOHN A. POOR.

### Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,  
Philadelphia, Pa.

IN press, and will be published in a few days; accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also in press, and will be issued in a few weeks, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidity, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.

June 28, 1851.

### Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 48 Cliff st.

**Notice to Contractors.***Steubenville and Indiana Railroad.*

**P**ROPOSALS will be received at the Office of the Steubenville and Indiana railroad company in Steubenville, until the first day of October next, for the Grading and Masonry of the first division of the road extending from Steubenville to the Connotten valley and also for the construction of the entire road between Steubenville and Coshocton; and also distinct proposals for the construction of that portion of the road extending from Coshocton to Newark.

The entire length of this line is about 110 miles, and it contains work of all descriptions, in great variety, some of which is quite heavy.

Proposals will be received for the Grading and Masonry of the first division entire or in sections of about a mile each, the Company reserving the privilege to make such disposition of the whole work, as may appear most conducive to its interests.

Plans, profiles and specifications can be seen at the office of the Company after the 15th of September, and further information may be obtained on application to J. Blickensderfer, jr., Chief Engineer, or to the undersigned,

D. KILGORE, President.

**Notice to Contractors.***Engineers Office, E. T. & V. R. R. Company, Greenville, E. T., June 5th, 1851.*

**P**ROPOSALS will be received until the 1st day of October next, for the Grading and Masonry of that part of the E. T. & V. Railroad between the Eastern terminus of said road at King's Meadow, and Rheatown, in Greene County, a distance of about forty-seven miles. A large amount of very heavy work, both in Grading as well as Masonry, will be found on this division, offering strong inducements to able Contractors.

Maps, Profiles, and Specifications can be seen at this Office, on and after the 20th of July next.

The Company reserve the right to reject all, or any proposals that they deem unsatisfactory.

Proposals should be directed to the Treasurer and Secretary of the E. T. & V. Railroad Company, Jonesborough, E. T.

LLOYD TILGHMAN,  
Chief Engineer.**Railroad Lanterns.**

**C**OPPER and Iron Lanterns for Railroad Engines, fitted with heavy silver plated Parabolic Reflectors of the most approved construction, and Solar Argand Lamps; manufactured by

HENRY N. HOOPER & CO.,  
No. 24 Commercial St. Boston.

August, 16, 1849.

**Railroad Iron.**

**T**HE Subscribers, Agents for the Manufacturers, are prepared to contract for the delivery of Railroad iron at any port in the United States or Canada, or at a shipping port in Wales.

WAINWRIGHT & TAPPAN,  
29 Central Wharf.

Boston, June 1, 1851.

**Bowling Tire Bars.**

40 Best Flange Bars 5½x2 inches, 11 feet long.  
40 " " 5½x2 " 7 feet 8 in. long.  
40 " Flat " 6x2 " 11 feet long.  
40 " " 6x2 " 7 feet 8 in. long.

Now in store and for sale by  
RAYMOND & FULLERTON,  
45 Cliff street.

**To Railroad Companies,  
Machinists, Car Man-  
ufacturers, etc., etc.**CHARLES T. GILBERT,  
NO. 80 BROAD ST., NEW YORK,

**I**S prepared to contract for furnishing at manufacturer's prices—  
Railroad iron,  
Locomotive Engines,  
Passenger and Freight Cars,  
Car Wheels and Axles,  
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention

**T**HE Fourth Annual Exhibition of AMERICAN MANUFACTURES, by the MARYLAND INSTITUTE for the Promotion of the Mechanic Arts, will be opened in Baltimore on the 20th October, 1851.

The Exhibition will be held in the SPLENDID NEW HALL of the Institute, (fronting on Baltimore street) now being rapidly completed. Their edifice is centrally situated, chaste in its architecture, solid in its construction, and is by far the largest and most complete building in the United States, devoted to the Mechanic Arts. It may be added that this building is 355 feet long by 60 in breadth, with an average height of 68 feet, containing some twelve apartments, the largest of which is 255 feet by 60, and that the cost will be over \$70,000.

To this Exhibition, the Managers ask the attention of all engaged in industrial pursuits throughout the country, and cordially invite them to contribute specimens of their best productions for public inspection, and to compete for the prizes offered by the Institute. These prizes consist of GOLD and SILVER MEDALS, DIPLOMAS, etc., which were last year distributed as follows:—Gold Medals, 16; Silver ditto, 90; Diplomas, 60; besides 85 articles of Jewelry, etc., to ladies. Fair play will be scrupulously observed towards all, and every facility of Steam power, shafting, fixture, labor, &c., &c., will be amply provided free of expense. The machinery will be under a special superintendent, and a fine display of it is looked for. The last exhibition of the Institute was visited by more than 40,000 persons, and with their vastly improved accommodations and alterations, this number will be doubled at the coming display, embracing many Virginians, Pennsylvanians, and other strangers from the South and West.

Joshua Vansant, President.

Ed. Needles, } Vice Presidents.

F. A. Fisher, }

Samuel Sands, Rec. Sec'y.

Wm. Prescott Smith, Cor. Sec.

F. J. Clare, Treasurer.

## BOARD OF MANAGERS.

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Chas. Suter.

(The last nine in *Italics* are the Committee on Exhibition.)

The Hall will be opened for the reception of goods on MONDAY, 13th October; on the next Monday, 20th, at 7 P. M., the Exhibition will be formally opened to the public, and will positively close on Wednesday, 19th November. Articles for competition must be in the Hall by Thursday night, Oct. 16, unless delayed in shipment after starting in ample time.

Those who intend depositing, will give the Committee or the Agent, notice as early as possible, stating the nature of the goods, and probable amount of room required, to exhibit them to advantage.

Circulars, containing a view of the new Hall and the full regulations of the Committee, with special information, if required, may be had promptly, by addressing the undersigned, or the Institute's Agent, J. S. Selby, Baltimore, post-paid.

ADAM DENMEAD,

Chairman Com. on Exhibition for 1851.

**SUPERIOR BLACK WRITING & COPYING  
INK.****Jones' Empire Ink.**

87 Nassau st., Sun Building, New York city.

Net prices to the trade—  
Quarts, per dozen, \$1 50 6 oz. per dozen, \$0 50  
Pints, " 1 00 4 " " " 37½  
8 ounces, " 0 62½ 2 " " " 25

On draught per Gallon, 20 cents.

This is the best Ink manufactured. It flows freely, is a good copying ink, and will not mould, corrode, precipitate or decay. Orders for export, or home consumption, carefully and promptly attended to by

21st

THEODORE LENT.

**To Railroad Companies, etc.**

The undersigned has at last succeeded in constructing and securing by letters patent, a Spring Pad-lock which is secure, and cannot be knocked open with a stick, like other spring locks, and therefore particularly useful for locking Cars, and Switches, etc.

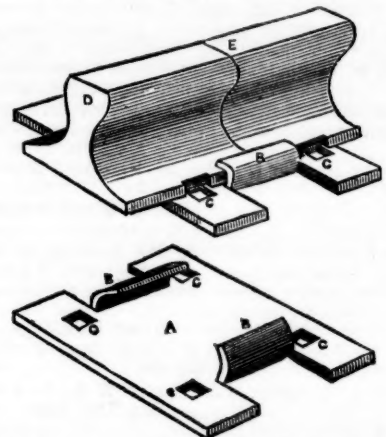
I also invite attention to an improved PATENT SPRING LOCK, for SLIDING Doors to Freight and Baggage Cars, now in use upon the Pennsylvania Central, Greenville and Columbia, S. C., Reading, Pa., and other Railroads.

Companies that are in want of a good Pad-lock, can have open samples sent them that they may examine and judge for themselves, by sending their address to

C. LIEBRICH,

46 South 8th St. Philadelphia.

May 9, 1851.

**The American Railroad Chair  
Manufacturing Co.**

**A**RE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

## DESCRIPTION OF THE ABOVE CUTS.

Figure 1 is a perspective view of the rail secured in the chair, and fig. 2 is a perspective view of the chair itself. D, E, are sections of two rails placed together, and secured at the joint on the chair by the jaws B, B. The chair is bolted down by spikes C, C. In fig. 2, the chair is represented as made of a single block or plate A of wrought iron.

The chair is set in its proper place on the track, spiked down, and the ends of the two rails brought together within the jaws as represented in fig. 1.

For further information address,

N. C. TROWERIDGE, Secretary,  
Poughkeepsie, N. Y.

June 1, 1851.

**Railroad Commission Agency.**

**T**HE Subscriber offers his services to Railroad Co's and Car Makers for the purchase of equipment and furniture of roads and depots and all articles and materials required in the construction of cars, with cash or approved credit. No effort will be spared to select the best articles at the lowest market price.

He is sole Agent for the manufacture of the ENAMELED CAR LININGS, now in universal use. The best Artists are employed in designing new styles, and he will make to order pieces with appropriate designs for every part of the car, in all colors, or with silver grounds and bronzed or velvet figures.

He is also Agent for Page's Car Window Sash Fasteners, which is preferred by all who have used it to any other.

CHARLES STODDER,  
75 Kilby st., Boston.

June 20, 1851.

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